Drug and Cosmetic Industry

MAY 1958

INCLUDING PACKAGING & SELLING

YOU WILL FIND THIS N BRAND IN DEMAND

Products smartly scented to sell seem to get their good scents from Norda.

Old stand-by favorites use long-time favorites, from Norda. New Norda fragrances have pushed new perfumed products to quick success. Aerosols, for instance, have profited greatly from the excellence Norda insists on.

Norda makes good scents

Norda®

Samples, free, by sending your business letterhead to

NORDA, 601 W. 26 St., New York 1, N. Y. • Chicago • Los Angeles • San Francisco • Toronto • Montreal • Havana • London • Paris • Grasse • Mexico City

POWERFUL REASONS

why you should use

- **ASCORBIC ACID U.S.P.**
- **COATED* ASCORBIC ACID 97.5%**
- **SODIUM ASCORBATE**

ROCHE

*This is Ascorbic Acid U.S.P. which has been coated with ethyl cellulose (approximately 1.2%). It is highly recommended and has many advantages for tablet manufacturers. Data on request.

When you buy from Roche you deal with a house of over a half century's experience in the fine chemical field,—a house that produces every useful type of ascorbic acid to meet virtually every manufacturing need; the first to achieve commercial production of vitamin C by the famous Reichstein synthesis.

Large consumers can have the advantage of single lots running as high as 3000 kilos—uniformly mixed, and necessitating only one assay. This is possible because 'Roche' really produces vitamin C "By the Tons."

Small users are just as important to us—they get the same Roche service, the experience of a house that for many decades has been in the forefront of vitamin research and manufacturing. Roche technical personnel is equally ready to assist you with development and production problems.

All types of Roche ascorbic acid are uniform, readily soluble, and easy to handle. Roche scientific production control is meticulous—it guarantees highest quality; specifications that even exceed U.S.P.'s.

Quick delivery from strategically located warehouses, where any of the following types are stocked to meet your individual product specifications, and from which fresh material is insured by our huge volume of sales:

Fine Powder — Ultrafine (Mikro) Powder — Granular
Fine Granular — Superfine Granular — Ampul Type
Sodium Ascorbate — Coated Ascorbic Acid 97.5%

Roche packaging is designed to protect the original quality in sealed tamperpruf containers. Refuse to accept material if this seal has been broken or if original Roche label shows signs of mutilation.

Ascorbic Acid and Sodium Ascorbate Roche are packed in sealed polyethylene bags in 1-kilo and 2½ kilo tamperpruf tripletit metal containers. Larger quantities are packed in sealed polyethylene bags in fibre drums. Smaller quantities in amber screw cap bottles. *Ampul type* ascorbic acid is packed under inert gas in 10 gram bottles and in 1-kilo and 2½ kilo tamperpruf metal containers.

BUY 'ROCHE'—DEPEND ON 'ROCHE'

*ROCHE—Reg. U.S. Pat. Off.

"The Vital Story of Vitamin C"—an Inside Science story is available in reprint form. It is published in the interests of the pharmaceutical manufacturer and food processors who make their good products better with essential health-giving Vitamin C.

CALL 'ROCHE' FOR VITAMINS

VITAMIN DIVISION • **HOFFMANN-LA ROCHE INC.** • NUTLEY 10, NEW JERSEY
NUtley 2-5000

Pacific Coast distributor: L. H. BUTCHER COMPANY
San Francisco • Los Angeles • Seattle • Portland • Salt Lake City
In Canada: Hoffmann-La Roche Ltd., 1956 Bourdon Street, St. Laurent, P. Q.

OTHER ROCHE VITAMINS INCLUDE

VITAMIN A acetate and palmitate • Dry VITAMIN A acetate • Beta CAROTENE • THIAMINE hydrochloride and mononitrate
RIBOFLAVIN • RIBOFLAVIN-5'-Phosphate Sodium • BIOTIN • PYRIDOXINE hydrochloride • NIACIN • NIACINAMIDE • dl-alpha-TOCOPHEROL acetate & unesterifie

Contents

May 1958 Vol. 82 No. 5

Cover by Joel

593 **Drug and Cosmetic Operations 1957**
by Joseph Kalish, Ph.D.

596 **Legally Acceptable Invention Records**
by George N. Naimark, Ph.D.

598 **Creating Fragrance Appeal**
by J. R. Elliott

600 **Final APMA Meeting**

602 **The Clove Oils**
by Steffen Arctander

604 **Expectations in Cancer Chemotherapy**
by Robert D. Coghill

606 **Encapsulating at Upjohn**

674 **New Drugs of 1957 (Conclusion)**
by L. F. Tice

613 **Hidden Persuasion: Fact or Fancy**
by Joseph Spaulding

615 **Set-up Paper Box Competition Awards**

620 **Packaging and Selling**
by Frazer V. Sinclair

628 **News in Packaging**

585 **Keeping Posted**
by Thomas R. Farrell

629 **Patent Thoughts and Trends**
by Thomas Cifelli, Jr.

633 **News**

647 **Management Forum**
by Francis Chilson

666 **Trade Literature**

668 **Industry's Books**
by Harry G. Kelbly

by Joseph Kalish, Ph.D.

657 **Advancing Therapy**

660 **Perfumer's Shelf**

663 **Compounder's Corner**

669 **Skin Research**

672 **Reader's Questions**

Editor THOMAS R. FARRELL
Managing Editor JOSEPH SPAULDING
Technical Editor JOSEPH KALISH, Ph.D.
Raw Material Editor HARRY G. KELBLY
Production Consultant FRANCIS CHILSON
Art Director MAX FRANKEL

Drug & Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer; Thomas R. Farrell, Vice-president and Secretary. Editorial and General Office: 101 West 31st St., New York 1, N. Y., U. S. A. Publication Address: Sun Printing Corp., 28 Renne Ave., Pittsfield, Mass., U. S. A.

Business Manager, Frazer V. Sinclair; Advertising Manager, P. W. Alexander; Advertising Representatives, Walter M. Brauneiss, C. R. Keeley; Production Manager, Katherine Hyde; Circulation Manager, Harry G. Kelbly.

Midwestern Advertising Representative: Dwight Early and Sons, 100 No. LaSalle St., Chicago 2, Telephone, CEntral 6-2184.

Subscription price $3.00 a year, in advance. Foreign Countries, $5.00. Single copies, 35c; Back issues 50c. Entered as Second Class Matter, January 1, 1928 at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879. Member of Audit Bureau of Circulation.

Contents Copyrighted 1958
by Drug Markets, Inc.

ZIMCO VANILLIN

When it comes to vanillin, Zimco says all there is to say. A favorite for years, it is the first choice of the flavor supplier.

The flavor chemist knows he can depend on Zimco quality and uniformity to produce perfect flavor for fine food products.

Zimco is the *Original* Pure Lignin Vanillin; its fine flavor and aroma are the result of continuous research and development.

CONSULT YOUR FLAVOR SUPPLIER

Sterwin Chemicals Inc.

SUBSIDIARY OF STERLING DRUG INC.

1450 BROADWAY, NEW YORK 18, N.Y.
2020 Greenwood Avenue, Evanston, ILL.

KEEP YOUR EYE ON STERWIN

BRANCH OFFICES: Atlanta • Buffalo • Dallas • Evanston (Ill.) • Kansas City (Mo.) • Los Angeles • Minneapolis • Portland (Ore.) • St. Louis

WAREHOUSES IN PRINCIPAL CITIES

WORLD'S LARGEST SUPPLIERS OF VANILLIN

Here's the SOLUTION

Kolar's Low Cost Midwestern Private Brand Cosmetic Manufacturing!

THIS IS ONE *of two recently purchased structures, totalling 137,000 square feet of floor space, used exclusively by Kolar Laboratories whose sole interest and business is the manufacture of private brand cosmetics and toiletries.*

IF YOU DISTRIBUTE COSMETICS OR TOILETRIES...

. . . and are seeking ways to offset rising costs and advancing freight rates, you need not undertake capital financing to build, equip and staff a new plant . . . tie up more money in fixed overhead . . . or assume added production, payroll and personnel problems. All or any part of your manufacturing and packaging (in meeting uncertain or peak load demands) can be handled more cheaply from Kolar's Midwest location.

Kolar is set up to handle a big volume of work. Its personnel know the importance of accurate process control and the need for trimming costs. They are skilled in maintaining quality and expediting production — to meet schedules on time. The whole operation, including Kolar's favorable location, offers benefits that really cannot be matched.

Centrally situated at the nation's hub of transportation, with suppliers of glass and ingredients at its very doorstep, Kolar CAN MANUFACTURE, PACKAGE AND SHIP CHEAPER. If you would like to operate more profitably, ship NORTH, SOUTH, EAST, or WEST at lower cost, and free yourself from production worries — Kolar does have the solution. Phone or write:

KOLAR LABORATORIES, INCORPORATED

1123 WEST JACKSON BLVD., CHICAGO, ILLINOIS • Phone: TAylor 9-2060

New England Area: 2 Pine St., Easthampton, Mass., Phone: Easthampton 1250

New York Area: 50-48 St., P. O. Box 807, Weehawken, New Jersey, Phone: Union 6-1277

Cosmetics
THE UNSEEN INGREDIENTS IN PRODUCTS SEEN EVERYWHERE
SONNEBORN
WHITE OILS
and
PETROLATUMS
For more than half a century Sonneborn has helped manufacturers maintain the confidence of their customers by its own constant research activities and by its development work with manufacturers in the production of better finished products through the more effective use of white oils and petrolatums. This dual effort has resulted in ever better products for both Sonneborn and its customers.
Sonneborn
L. SONNEBORN SONS, INC., NEW YORK 10, N. Y.

Creative Perfumer

Production

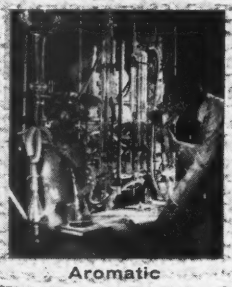
Perfume Evaluation Board

Aromatic Production

Sales

Cosmetic Research

Chemical Engineering



Aromatic
Chemical Research

Quality Control

People...

THE IMPORTANT INGREDIENT

The success of your perfume is the result of the abilities of the many creative, technical and service *people,* who have a part in the creation and production of the perfume itself.

VAH Perfume Evaluation Board... Unmatched in their ability, these professionals screen every perfume sample on the basis of its intrinsic beauty as a fragrance, its adaptability to a specific market, its potential level of consumer acceptance, its relationship to both competitive and companion items... Not the opinion of an amateur panel, but the recommendation of this experienced *board of experts* goes with every perfume sample submitted by VAH.

A perfume by VAH has all the ingredients for beauty and success.

van Ameringen-Haebler, Inc.

521 WEST 57th STREET · NEW YORK 19, NEW YORK

van Ameringen-Haebler, S.A.R.L.
Paris, France

van Ameringen-Haebler, Ltd.
Toronto, Canada

Lautier Fils

"A STANDARD OF QUALITY SINCE 1795"

GRASSE, FRANCE

ESSENTIAL OILS
NATURAL FLOWER ABSOLUTES
CONCENTRATED NATURAL FIXATIVES
SYNTHETIC AROMATICS

Uniform
Quality Merchandise
Shipped From
any of Our
Many Branches
and Factories

LAUTIER FILS, INC.

321 FIFTH AVENUE, NEW YORK 16, N.Y.

GRASSE • PARIS • LONDON • BEYROUTH • ST. LOUIS • CHICAGO • RIO DE JANEIRO

ATLAS certified colors

Industry's Standard for Over 100 Years

FIRST PRODUCERS OF CERTIFIED COLORS

H. KOHNSTAMM & COMPANY Inc.

ESTABLISHED 1851

89 PARK PLACE NEW YORK 7 · 11-13 E. ILLINOIS ST. CHICAGO 11 · 2632 E. 54 ST. HUNTINGTON PK., CALIF.

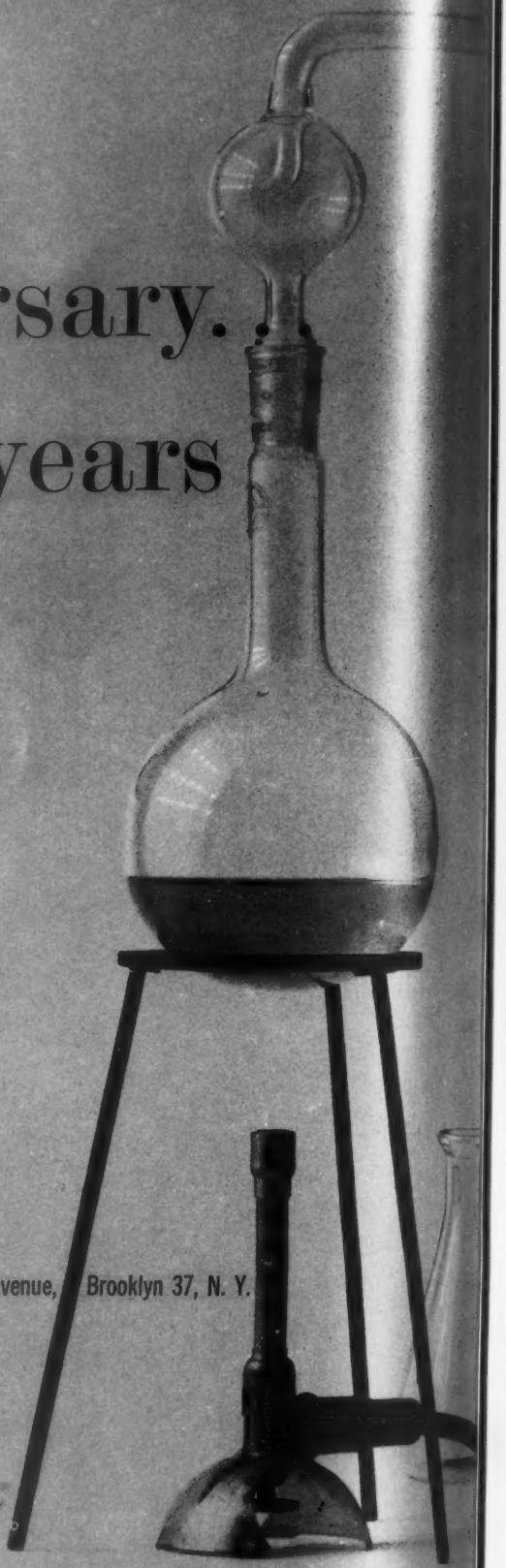
BRANCHES IN OTHER PRINCIPAL CITIES OF THE U.S.A. AND THROUGHOUT THE WORLD

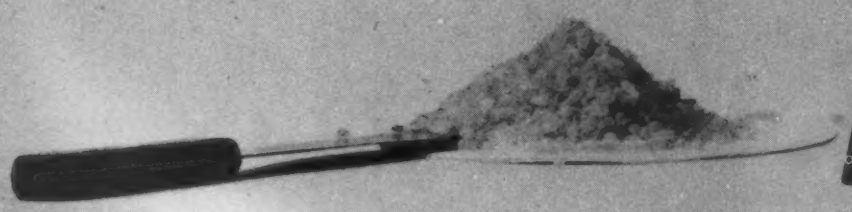
35th Anniversary... and greater years still to come

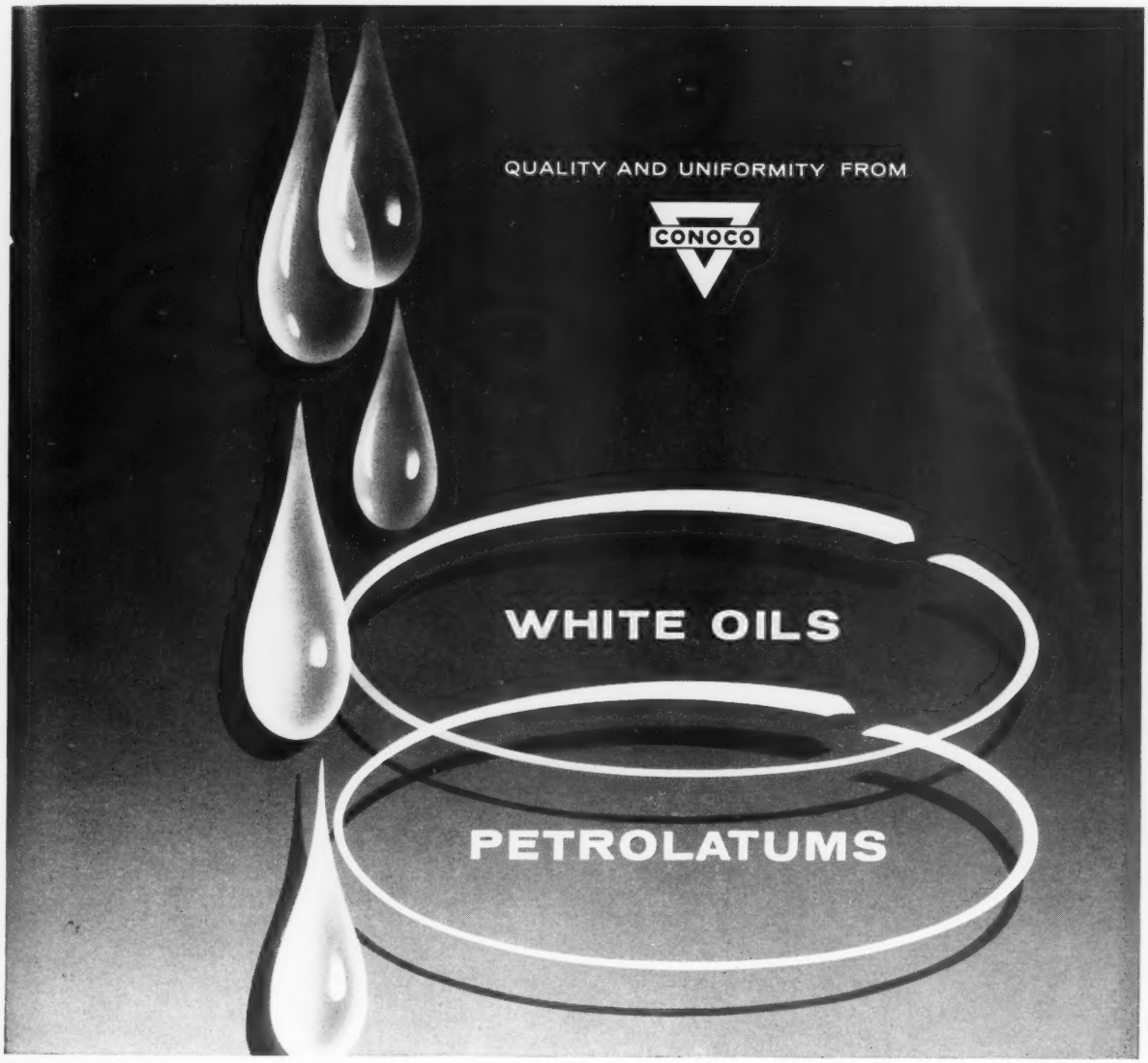
For 35 years Felton has made its successful products a by-word in the industry. Through resourceful and imaginative effort, and an inherent flair, Felton has achieved a position of prideful importance. In the many years to come Felton will continue to be a source of rich inventiveness and fluent skill in transforming industry needs into new developments for greater success.

Felton Chemical Co., Inc., 599 Johnson Avenue, Brooklyn 37, N. Y.

Sales offices and plants in major cities, Canada and overseas.







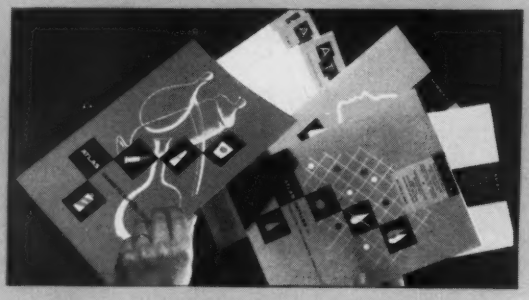
Combine high quality with consistent uniformity and you get the full value of ordering white mineral oils and petrolatums from Continental Oil Company – Conoco. Because these products are refined to exceed U.S.P. and N.F. specifications, you can be sure that each shipment will conform to your rigid requirements.

Consider, too, new Conoco-developed Ramol 500. This extra-high-viscosity white mineral oil, U.S.P., offers excellent applications in the manufacture of a variety of products. Conoco can also provide you with an ample supply of technical grade white mineral oils and petrolatums.

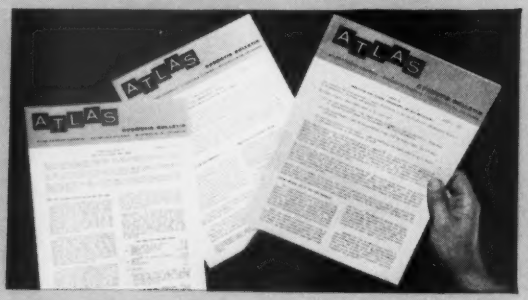
For fastest possible service, or for samples and more information, call or write Conoco today. Branch offices and warehouses are located in all principal cities in the United States. In foreign countries, contact our representative.

CONTINENTAL OIL COMPANY
Sherwood Refining Division
P.O. Box 192
Englewood, New Jersey, U.S.A.
P. O. Box 1207
Rotterdam, The Netherlands

The Atlas 4-Point Program also helps you with . . .



EASY-TO-USE DATA: including Catalog of Atlas emulsifiers and SORBO®, Guide to formulation practice, Formulary of tested guide formulas.



LATEST IDEAS: regular mailings of Atlas Cosmetic Bulletins keep you informed of new ingredients, formulas, trends, "how-to-do-it" data.

. . GET MORE HELP THAN EVER ON YOUR NEW COSMETIC FORMULAS

from the new Atlas Technical Center

. . . latest expansion of the 4-Point Program for cosmetic formulators

WHEN your own lab gets overloaded with work on new product development, Atlas is the place to look for help.

We've been lending cosmetic formulators a hand for a long time. And now, with the opening of our new $3 million Technical Center, we're better equipped than ever to take a big slice of the time and trouble out of your new formula projects.

We'd like to have you visit us at our new Technical Center. Not just because it's a modern laboratory and we're proud of it . . . but because we'll be able to talk over your specific formulation problems and maybe help you.

Our lab people are well experienced in the theory of emulsion chemistry and in practical ways of applying this science to making better cosmetic products. You'll find most kinds of mixing and testing equipment on hand, if you want to try some ideas while you're here.

Expanded lab assistance from our Technical Center is just one of the ways that the Atlas 4-Point Program for cosmetic formulators can help you to cut the cost, time and facilities needed for creating new products. Check the details of the Program below and be sure you've got all that's available. Then talk it over with your local Atlas representative.

SIMPLIFIED EMULSIFIER SELECTION: from the Atlas "32" line of cosmetically proved emulsifiers . . . all you need to handle emulsification in *any* cosmetic.

CHEMICALS DIVISION
ATLAS POWDER COMPANY
WILMINGTON 99, DELAWARE
In Canada: Atlas Powder Company, Canada, Ltd.
Brantford, Ontario, Canada

MEDICINAL MARTYRDOM IS NO LONGER NESESSARY!

"Indian Fakirs would lie upon a bed of sharp spikes to prove the concept of mind over matter"

And mind over matter can be very helpful in such uncomfortable circumstances—but wouldn't an innerspring mattress sell more couches? Just as the market for "thorny beds" is restricted to the esoteric few . . . the interest in *foul tasting pharmaceuticals* is even more limited. Mind over matter medicinals, today, should be kept to those very few items about which it is thought nothing can be done . . . and the D&O FLAVOR LABORATORIES admit of no such items! Most pharmaceuticals can be made not only palatable, but pleasant . . . and even the very worst can be considerably improved. Don't put your customer upon a "medicinal bed of nails". . . he'll buy happily and more frequently if you let the mind over matter concept remain an intellectual exercise . . . rather than a grim, pharmaceutical necessity. Consult D & O.

Write for copy of Reference Book of Flavors and Seasonings

Essentially for You!

D&O ESTABLISHED 1798

OUR 159th YEAR OF SERVICE

DODGE & OLCOTT, INC.

180 Varick Street, New York 14, N. Y.

Sales Offices in Principal Cities

ESSENTIAL OILS
AROMATIC CHEMICALS
PERFUME BASES
FLAVOR BASES
DRY SOLUBLE SEASONINGS

UNIFORMITY
you can rely on...

Refined and sun-bleached from the world's finest Crude Beeswaxes,

BEEHIVE BRAND BEESWAX
undergoes rigorous chemical and physical tests to assure:

1. Uniform Purity
2. Uniform Texture
3. Uniform Whiteness

Behind it is the reputation and integrity of a concern with more than a century of experience in blending beeswax formulae to special requirements. The guaranteed purity and uniform texture and whiteness of Beehive Brand Beeswax will simplify your laboratory work and assure more saleable quality in your finished products.

WILL & BAUMER Candle Co., Inc., Dept. DC, Syracuse, N. Y.

BEEHIVE BRAND *Beeswax*

Free Consultation Service

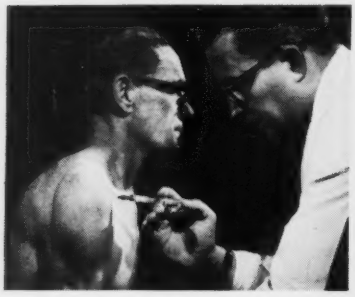
● The experimental data and practical manufacturing experience of more than 100 years' specialization in beeswax and beeswax compounds are at your service without cost or obligation.

Write us about your beeswax problems.

NEW YORK 16	BOSTON 9	CHICAGO 6	LOS ANGELES 15
15 E. 32nd St.	71 Broad St.	162 N. Franklin St.	952-4 S. Flower St.

Clinicians Acclaim Superiority of Hydrocortisone

Recently the spotlight of comparative evaluation has been repeatedly focused on hydrocortisone in the treatment of many disorders. In impressive new publications, this steroid—the chief hormone of the human adrenal cortex—is accorded major commendation.[1-3] Thus, authoritative clinical judgment acclaims anew the advantages of hydrocortisone in the treatment of many diverse disorders in many patients. An editorial points to the superiority of hydrocortisone ointment in pruritus ani.[1] A monumental new *Dermatology* remarks that this corticoid is the best single medication for circumscribed neurodermatitis in any area.[2] The authors recommend topical hydrocortisone highly in many other dermatoses, and affirm the extreme rarity of significant local or general reactions to this type of therapy.[2] Systemic hydrocortisone is now recommended as life-saving in many geriatric patients unable to tolerate anesthesia or surgery without such hormonal treatment.[3]



Intra-articular hydrocortisone greatly relieves joint pain and stiffness in osteoarthritis.

Thus, as the clinical use of hydrocortisone has been extended on a vast scale through the years, notable advantages of this steroid have become established. Perhaps most striking is this fact about topical therapy: ***Many patients who fail to respond satisfactorily to available analogues of the hormone can be markedly benefited by hydrocortisone itself.***[1,4-6]

As the principal hormone of the human adrenal cortex, hydrocortisone may well be metabolized "more physiologically"—that is, in more nearly normal (or natural) chains of reactions than are certain of its congeners. Such considerations are highly significant in both topical and systemic use of the hormone since freedom from side effects is as important as pharmacologic potency.

So, in the intense competition of modern pharmacotherapeutics, hydrocortisone wins new high honors and, on the sound bases of clinically proved rationales, gains greater and greater markets.

References

1. Editorial: *J.A.M.A.* 162:732, Oct. 20, 1956.
2. Pillsbury, D. M., Shelley, W. B., and Kligman, A. M.: *Dermatology*, Philadelphia, Saunders, 1956, pp. 304, 414.
3. Howland, W. S.: *Geriatrics* 12:147-150, March 1957.
4. Smith, C. C.: *A.M.A. Arch. Dermat.* 74:414-415, Oct. 1956.
5. Frank, L., and Stritzler, C.: *A.M.A. Arch. Dermat.* 72:547-549, Dec. 1955.
6. Robinson, H. M. Jr. *et al. U. S. Armed Forces M. J.* 7:963-978, July 1956.

(Many additional references on request)

Hydroc
Wins New

And You Win New Markets with

In the tests of time and searching investigation, the chief hormone of the human adrenal cortex has again and again been reported to be unexcelled in many clinical situations—and often has been designated the therapeutic agent of choice. Markets for this hormone, alone or in combinations for topical or systemic use, continue to expand rapidly.

MERCK & CO., Inc.

© Merck & Co., Inc.

ortisone
High Honors

Merck Hydrocortisone Products

Take advantage of the high esteem for hydrocortisone by *specifying Merck*—for either hydrocortisone or hydrocortisone microfine, custom-designed for extra-smooth topical formulations. Merck offers both the free alcohol and the acetate, *plus* the kind of Technical Service you require for product development.

mical Division, RAHWAY, NEW JERSEY

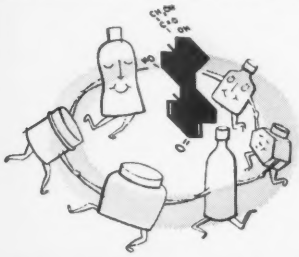
Expanding Markets Seen for Hydrocortisone

★ Today, the topical medication market already annually exceeds $100,000,000 . . .

★ Our population is already approximately 170 million—and growing—markets too are growing . . .

★ Longevity is at its greatest—and still increasing . . .

★ Skin disorders, eye conditions, osteoarthritis, and many other disorders in which hydrocortisone is often indicated are on the increase because almost 60 million U.S. men and women have become members of the "40-PLUS" group.



New Hydrocortisone Combinations Offer Enormous Potentials

The number of possible, therapeutically valuable hydrocortisone combinations with different drugs is large. Dosage forms are varied and this diversity of possible formulations is all the greater because of (1) the wide choice of available vehicles, with new types on the way, and (2) the variation in the concentration of each ingredient.

Tranquilizer plus hydrocortisone affords an antiarthritic medication which also relieves the commonly aggravating factors of anxiety and tension.

Certain vitamins plus hydrocortisone would seem to offer great promise in view of the increased vitamin needs in stress.

Sex hormones plus hydrocortisone are now advocated by clinicians who emphasize the anabolic effects of estrogen and androgen, especially in geriatrics.

Pyrilamine plus hydrocortisone for either topical or systemic use provides the clinically proved anti-histaminic effects of Pyrilamine in addition to the anti-inflammatory action of hydrocortisone.

Neomycin plus hydrocortisone for topical use is strongly endorsed when bacterial infection is present in inflammatory conditions.

Hematinics plus hydrocortisone may be useful in acquired hemolytic anemias if a complicating nutritional deficiency is present.

Analgesic (non-narcotic) plus hydrocortisone represents a combination of established value.

Local anesthetic plus hydrocortisone is a promising combination for local injection in the treatment of soft tissue lesions, as in fibrositis, tendinitis.

Vasoconstrictor plus hydrocortisone with or without an antibiotic has found extensive use as a nasal spray.

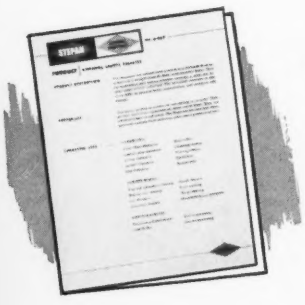
TESTED FRAGRANCES
for AEROSOLS
by PFW
PFW
for odor and taste
POLAK'S FRUTAL WORKS INC.
MIDDLETOWN, N. Y.
AMERSFOORT, HOLLAND • PARIS, FRANCE • BREMEN, GERMANY • BRUSSELS, BELGIUM • SOFLOR LTD. - PERIVALE, ENGLAND

RIGID UNIFORMITY • EXCELLENT COLOR

STEPANOL LAURYL SULFATES

Stepanol lauryl sulfates offer you instant solubility, high initial foam and a foam that is creamy . . . close bodied. They also provide excellent foam stability and free rinsing. These Stepanols are sulfated fatty alcohols from selected cuts of straight chain alcohols predominantly lauryl. There is a wide variety of Stepanols to meet your requirements for physical form, concentration and inorganic salt content.

TRADE NAME	CHEMICAL DESCRIPTION	PHYSICAL FORM	ACTIVE	FREE FATTY ALCOHOL	CHLORIDE	SULFATE	pH 1% SOLN.	LBS./GAL. 30°C
Stepanol WA Paste	Sodium Lauryl Sulfate	Paste	28-30	1.5-3.0	1.4-1.8	1.4-1.8	7.5-8.5	8.67
Stepanol WAQ	Sodium Lauryl Sulfate	Viscous liquid	28-30	1.5-3.0	0.3-0.8	1.4-1.8	7.5-8.5	8.67
Stepanol WA Special	Sodium Lauryl Sulfate	Clear viscous liquid	28-30	1.0-2.5	0.3-0.8	0.5-1.0	7.5-8.5	8.67
Stepanol ME Dry	Sodium Lauryl Sulfate	Powder	90-94	1.5-3.5	1.0-2.0	1.5-3.5	8.5-11.0	
Stepanol ME Dry AW	Sodium Lauryl Sulfate	Powder	90-95	0.5 Max.	1.0-2.0	1.5-3.5	8.0-10.5	
Stepanol WAT	TEA Lauryl Sulfate	Clear liquid	39.50-41.0	1.3-2.0	1.0-2.0	2.3-4.5	7.0-8.5	8.7
Stepanol DEA	DEA Lauryl Sulfate	Clear liquid	33.5-36.0	1.25-3.25	1.3-2.6	2.6-3.5	8.4-8.7	8.58
Stepanol AM	Ammonium Lauryl Sulfate	Viscous liquid	28-30	1.5-3.0	0.5-2.0	1.5-2.0	5.5-6.5	8.53
Stepanol T-28	Special Sodium Lauryl Sulfate	Viscous liquid	35.5 Min.				9.0	8.6



WRITE FOR BROCHURE OF SUGGESTED FORMULATIONS

Included are suggested formulations for a wide variety of liquid, liquid creme and paste shampoos as well as hand cleaner, shaving cream, rug shampoo, and bubble bath formulations.

STEPAN CHEMICAL COMPANY

427 West Randolph Street • Chicago 6, Illinois
Telephone State 2 4711

FATTY ALCOHOL SULFATES • BULK LIQUID DETERGENTS • ALKYLOLAMIDES • FOAM STABILIZERS • ALKYL PHENOL POLYALKOXY SULFATES • NON-IONIC DETERGENTS • CUSTOM ETHOXYLATION • ALKYL PHENOLS

A NEW ROAD TO SUCCESS
Please ask for
data sheets and samples

ISO-BERGAMATE "DRAGOCO"

resembles the fragrance of the bergamot oil, along with a soft fruitiness and a delicate, woody background.

DRAGO-JASIMIA

to accentuate fine flower scents – particularly for jasmin – proven essential in deluxe perfumery.

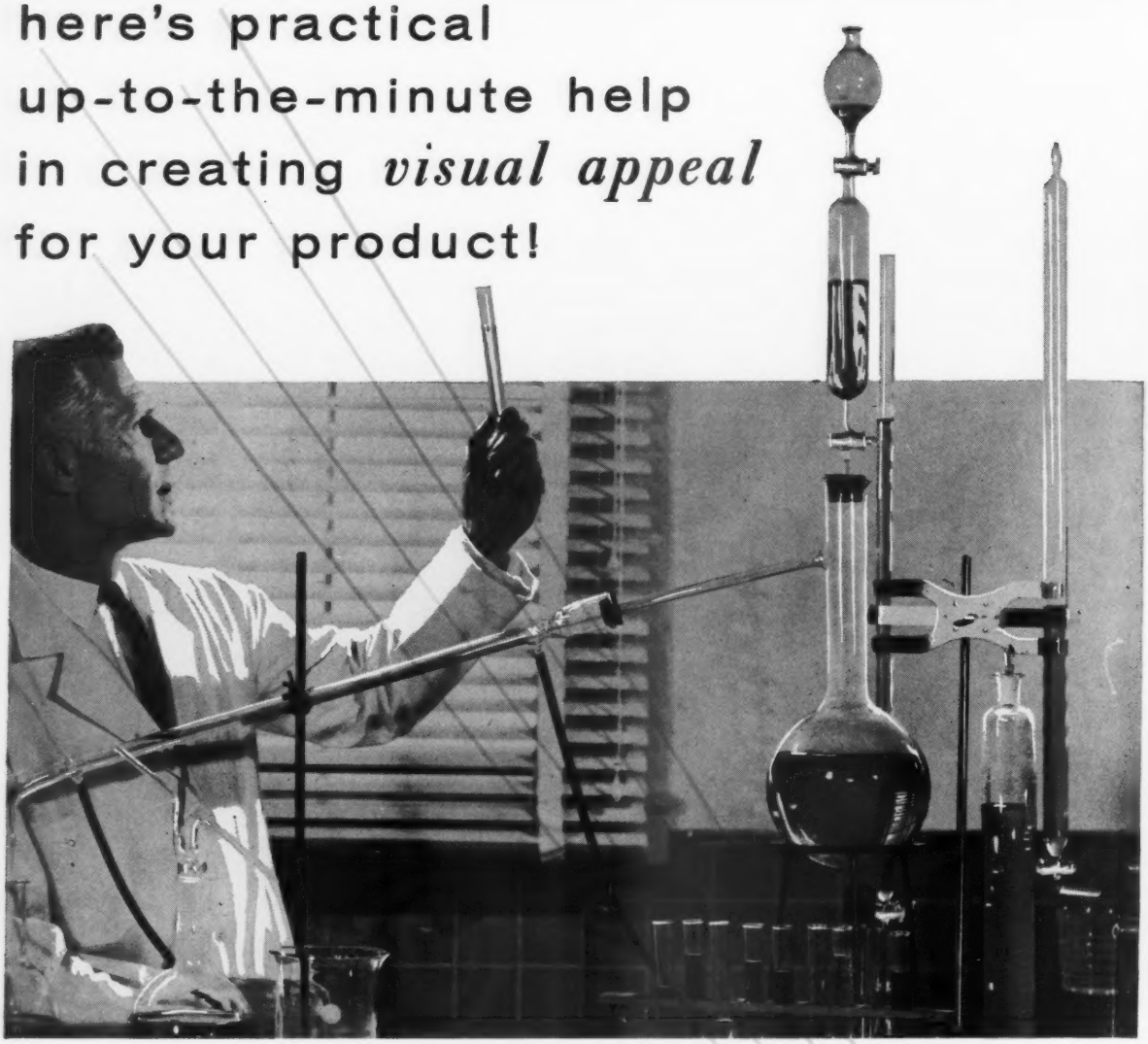
LACTOSCATONE "DRAGOCO"

provides a typical fecal note with a warm animal background and a delicate woody note.

DRAGOCO INC.

250 West Broadway, **New York 13**, N.Y.
Tel. CAnal 6 5813/15

here's practical up-to-the-minute help in creating *visual appeal* for your product!



As the leading producer, National Aniline stays ahead of changing color requirements due to revised regulations and new product development in pharmaceuticals and cosmetics.

At our Buffalo Research Center, intensified research works constantly to expand the spectrum of certified colors. Quality and uniformity are precisely standardized at levels well beyond the minimum requirements for certification.

Our Technical Service Laboratories supply practical help in coloring new products and reformulating established lines.

Today our experienced color technologists are better-than-ever able to help you solve color problems. A call to our nearest office will get prompt attention.

Allied Chemical

NATIONAL® CERTIFIED COLORS

NATIONAL ANILINE DIVISION ALLIED CHEMICAL & DYE CORPORATION • 40 RECTOR ST. NEW YORK 6, N. Y.

Akron Atlanta Boston Charlotte Chattanooga Chicago Greensboro Los Angeles New Orleans Philadelphia Portland, Ore. Providence San Francisco Toronto

Bouquet 50 is the modern interpretation to a fresh, modern scent . . . the search for the new and intriguing . . . distinctly different . . . timed for successful products . . . all-ways . . .

Florasynth LABORATORIES, INC

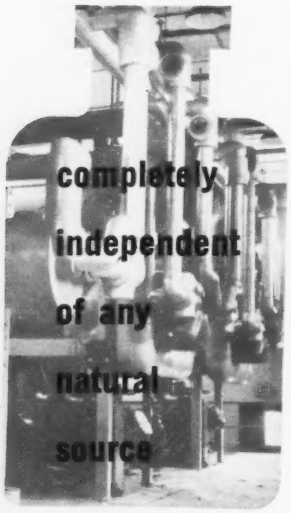
EXECUTIVE OFFICES: 900 VAN NEST AVE., (BOX 12) NEW YORK 62, N. Y.

CHICAGO 6 · LOS ANGELES 21

CINCINNATI 2 • DETROIT • DALLAS • MEMPHIS • NEW ORLEANS 12 • ST. LOUIS 2 • SAN FRANCISCO SAN BERNARDINO

Florasynth Labs. (Canada Ltd.) • Montreal, Toronto, Vancouver, Winnipeg • Agts. & Dist. in Mexico—Drogueria & Farmacia Mex. S. A., Mexico 1, D. F.

the new 'ROCHE' Aromatics offer the perfume designer and manufacturer :



- *previously unattainable stability in quality, supply, and price*
- *uniformity of raw materials never before achieved*
- *unexplored possibilities for creation of new interesting fragrances*
- *opportunity for long-range planning and purchasing*

now available

LINALOOL 'Roche'

A purer material than any previously offered to the industry. Free from the impurities present in the linalool from natural sources. Contains no other alcohols or terpenes. Olfactorily pure and floral in character. No residual 'after odor.' Unusually stable in soap.

LINALYL ACETATE 'Roche'

A very pure linalyl acetate containing no other esters and no terpenes. The Roche special process also precludes the formation of any other alcohols during the esterification process. Olfactorily pure and clean in odor. No residual 'after odor.' Unusually stable in soap.

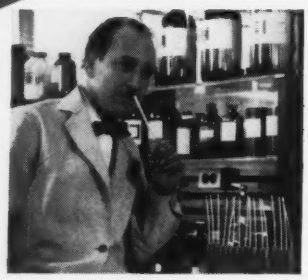
GERANYL ACETONE 'Roche'

A completely new synthetic aromatic. Possesses a soft green odor with a rose note. A good base for synthetic lavender, geranium and rose bouquet. Stable in soap.

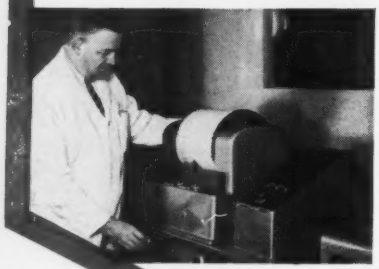
NEROLIDOL 'Roche'

Pure nerolidol. Light balsamic odor. Excellent fixative. Blends well with any perfume compound.

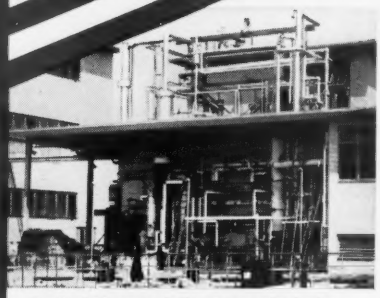
Detailed information on each product will be furnished on request.



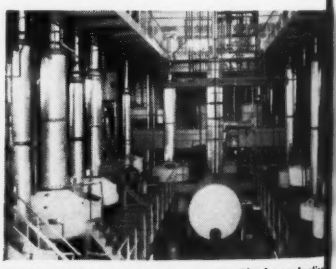
Continuous olfactory control.



Constant control of uniformity.



Part of the specialized manufacturing facilities for maintaining uniformity of 'Roche' Aromatics.



Uniformity assured by controlled productio

'Roche' Aromatics are available through principal essential oil distributors

ROCHE

AROMATICS DIVISION

HOFFMANN-LA ROCHE INC • Roche Park • Nutley 10 • New Jersey • NUtley 2-5000

New York City • OXford 5-1400

ARE YOUR PROFITS FOR THE BIRDS?

Orbis can show you economies in odors that put your products in favor and more profits in the bank.

The art of making scents make cents is a proud art at Orbis. Whatever scented product you market, an Orbis Odor will help it prosper.

Why not set Orbis on the scent of success for you?
A card will bring you our catalogue of good products.
A call will bring us running.

ORBIS
PRODUCTS
CORPORATION
601 W. 26th STREET
NEW YORK
WAtkins 4-7660

BANK ON ORBIS SCENTS AND SAVE DOLLARS

CRYSTALLINE STRUCTURE IS BEST IN GROCO 55L STEARIC ACID

What you see above is no accident. We broke this slab of GROCO 55L to reveal the true stearic-palmitic crystal structure. It is a sure indication of the most favorable balance between palmitic and stearic acids—approximately equal parts. This ratio is a must if you are to produce cosmetic creams that won't shrink from the walls of their containers. Or buffing compound bars that release easily from their molds.

The 0.2 maximum iodine value for GROCO 55L—a new, high commercial standard—is equally outstanding. It is one reason why GROCO 55L holds to its brilliant whiteness—either in storage or under heat—and why products based on it stay pure and fresh longer than with other stearic acids.

Add exceptional freedom from odor that carries through to the end product. Unequalled freedom from esters. Unmatched low content of unsaponifiables. Complete freedom from metallic contamination. Assured uniformity from shipment to shipment.

The sum total of so many top qualities in a single product clearly suggests that you "Always Specify A. Gross" when it comes to stearic acid. You'll come out better—whether you make cosmetics, toilet goods, soap, pharmaceuticals, food emulsifiers, plastics or paints.

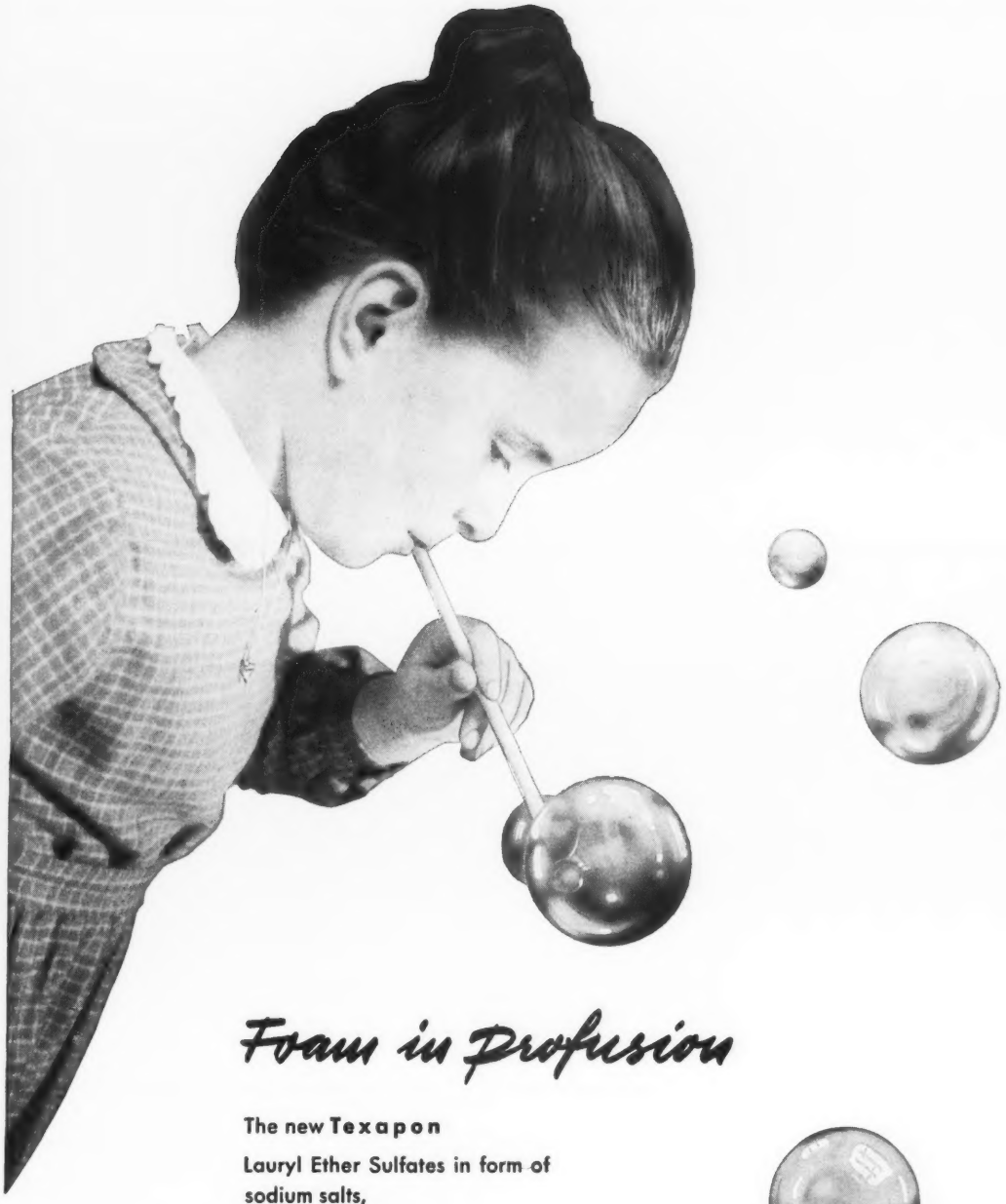
Send for samples and brochure, "Fatty Acids in Modern Industry."

FATTY ACIDS

STEARIC ACIDS • COCONUT FATTY ACIDS • TALLOW FATTY ACIDS • VEGETABLE FATTY ACIDS
RED OILS • WHITE OLEINES • HYDROGENATED TALLOW GLYCERIDES • HYDROGENATED FATTY ACIDS

a. gross & COMPANY

295 Madison Avenue, New York 17, N. Y. • Factory: Newark, N. J.
Distributors in principal cities • Manufacturers since 1837



Foam in profusion

The new **Texapon**

Lauryl Ether Sulfates in form of
sodium salts,
ammonium salts,
monoethanolamine salts,
triethanolamine salts,
for shampoos, bubble baths,
bath essences, and other cosmetics.

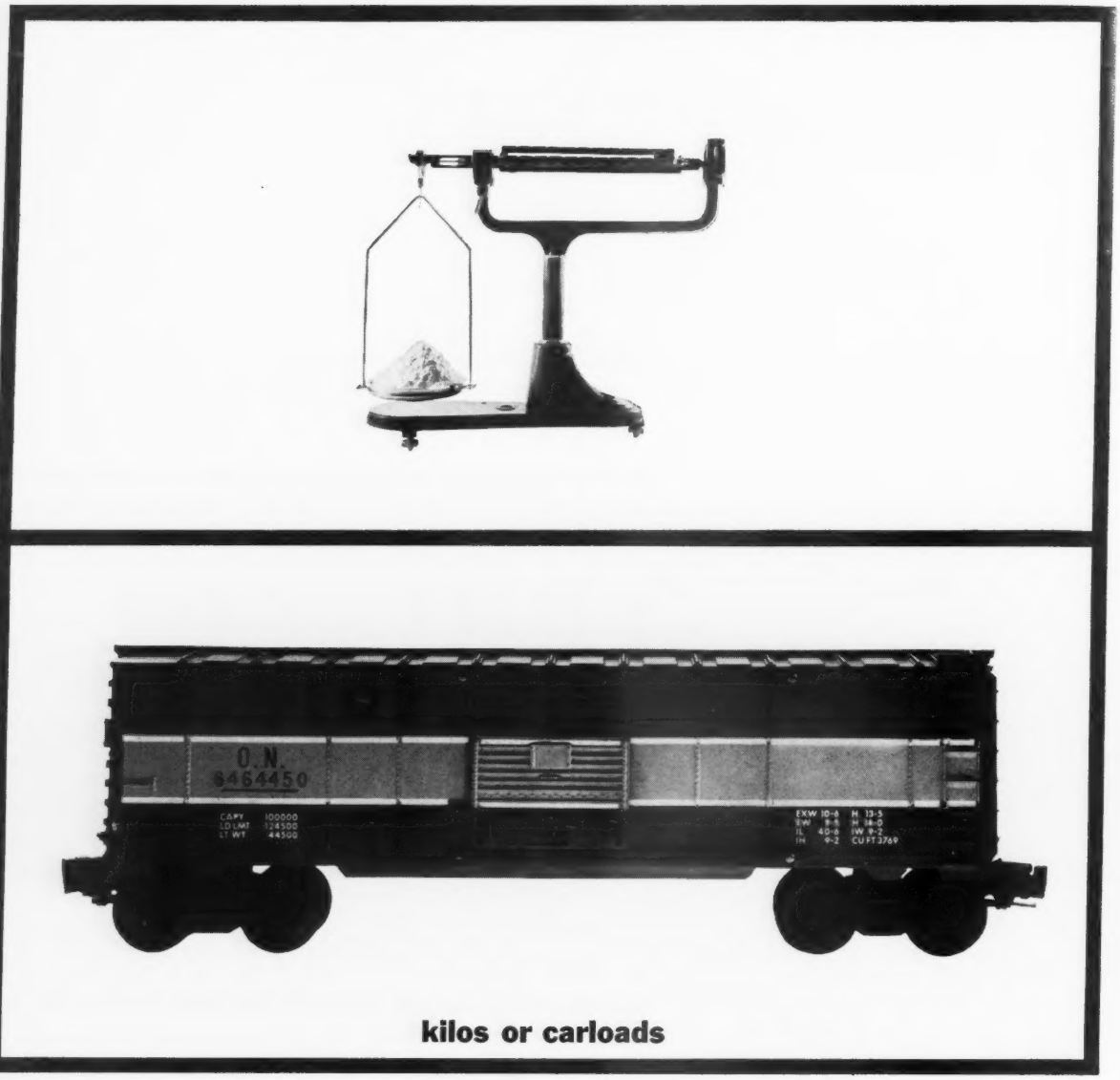
TEXAPON

A81/57

DEUTSCHE HYDRIERWERKE GMBH · GERMANY · DÜSSELDORF

DEHYDAG

DISTRIBUTORS IN USA:
EAST COAST: Fallek Products Company Inc., 165 Broadway, New York 6, N.Y. MIDWEST: A.H. Carnes Co., 75 East Wacker Drive, Chicago 1, Ill. SOUTH: Ben R. Hendrix Trading Co., Inc., 305 Marine Building, 219 Carondelet Street, New Orleans 12, La. WEST COAST: The East Asiatic Co., Inc., 530 West 6th St., Los Angeles 14, Calif. · The East Asiatic Co., Inc., 465 California Street, San Franzisco 4, Calif. · The East Asiatic Co., Inc., 417 Equitable Building, 421 S.W. Sixth Ave., Portland 4, Oregon.
DISTRIBUTORS IN CANADA:
EAST COAST: Canerpa Limited, Suite 223, Drummond Building, 1117 St. Catherine Street West, Montreal. CENTRAL: Canerpa Ltd., 137 Wellington St. W., Toronto. BRITISCH COLUMBIA: The East Asiatic Co. (B. C.) Ltd., Marine Building, Vancouver 1, B.C.



kilos or carloads

Upjohn

FOLIC ACID U.S.P.

fine quality in bulk pharmaceuticals

FOR YOUR VITAMIN MANUFACTURING NEEDS, The Upjohn Company now offers folic acid in bulk – yet made in accordance with the same exacting standards of quality that have characterized Upjohn fine pharmaceuticals for almost seventy years. Upjohn Folic Acid is 99% pure by both chemical and microbiological assays. Its potency and purity are assured by several tests performed *in addition* to U.S.P. specifications.

INCLUSION OF FOLIC ACID IN STANDARD THERAPEUTIC VITAMIN CAPSULES for nutritionally depleted patients is recommended by the Committee on Therapeutic Nutrition. Folic acid, widely prescribed in certain types of macrocytic anemia, plays an important role in the formation of blood cells, protein metabolism, and the maintenance of tissue integrity.

UPJOHN FOLIC ACID is available in manufacturer's quantities as a powder . . . in standard particle size for tablets, capsules and powders . . . and in micronized particle size for oral suspensions and parenteral products.

SAMPLES, LITERATURE AND PRICES FURNISHED ON REQUEST. THE UPJOHN COMPANY, CHEMICAL SALES DIVISION, KALAMAZOO, MICHIGAN

special note to the perfumer

check first with Verley

announcing AMBRETTOGENE®

A true Macrocyclic Musk of highest possible purity. A solid product at room temperature, but its crystalline structure makes it readily soluble. The fragrance is markedly reminescent of Ambrette Seed concrete. Its power and influence on tonality, and in particular its affinity to the skin, encourage exhaustive experiments.

For aromatic materials . . .
for new ideas —
check first with
Albert Verley & Company.

AMBRETTOGENE®. . .
extremely useful in
Soaps, Perfumes,
Cosmetics, Aerosols.

®Registered Trade Mark

SEND FOR SAMPLE . . .
One pound lots, $12.00 per pound
Prices proportionately lower
in larger quantities.

Albert Verley & Company

1375 EAST LINDEN AVENUE, LINDEN, NEW JERSEY
1018 S. WABASH AVENUE, CHICAGO 5, ILLINOIS
21 EAST 40th STREET, NEW YORK 10, NEW YORK
MEFFORD CHEMICAL CO.
5353 JILSON STREET, LOS ANGELES 22, CALIF.

ALBERT VERLEY & COMPANY

• Synthetic Aromatic Products and Organic Isolates • Bouquets and Finished Compositions
• Synthetic Flower Oils and Aromatic Bases • Essential Oils

A VERSATILE ANTIHISTAMINE PYRILAMINE MALEATE MERCK

LOTIONS, CREAMS, AND OINTMENTS: PYRILAMINE MALEATE MERCK can be a valuable component of any of these formulations. Its outstanding effectiveness as a histamine antagonist can build consumer acceptance for your dermatologic preparations.

COLD TABLETS AND SYRUPS: PYRILAMINE MALEATE MERCK is compatible with a wide variety of analgesics and antipyretics commonly used in cold preparations. Its substantial margin of safety makes pyrilamine especially suitable for over-the-counter products of this type.

COUGH SYRUPS: The local anesthetic properties of PYRILAMINE MALEATE MERCK add a soothing quality to cough formulations and its antihistaminic action reduces allergy-induced congestion, if present. Because of these advantages pyrilamine can help popularize your product.

ALLERGY PREPARATIONS: Assistance in formulating antiallergy preparations and other products containing PYRILAMINE MALEATE MERCK is available on request. Merck will also supply information on approved dosage levels and other technical and commercial data.

Research and Production for the Nation's Health

MERCK & CO., INC.
Manufacturing Chemists
RAHWAY, NEW JERSEY

© Merck & Co., Inc.

Intimate...

The cosmetics chemist has learned from the motivational research psychologists that the most intimate emotional factors influence a woman's choice of cosmetics — and chief among them is scent.

That's why he attaches such great importance to fragrance . . . and so frequently uses Verona products as developers and extenders to bring out the latent brilliance of the compound.

Why not test some of the Verona specialties listed at the right. See how successfully they help you hit, and *hold* the piquant round notes and top notes that you want your products to have. We will gladly send samples on request.

A FEW VERONA SPECIALTIES

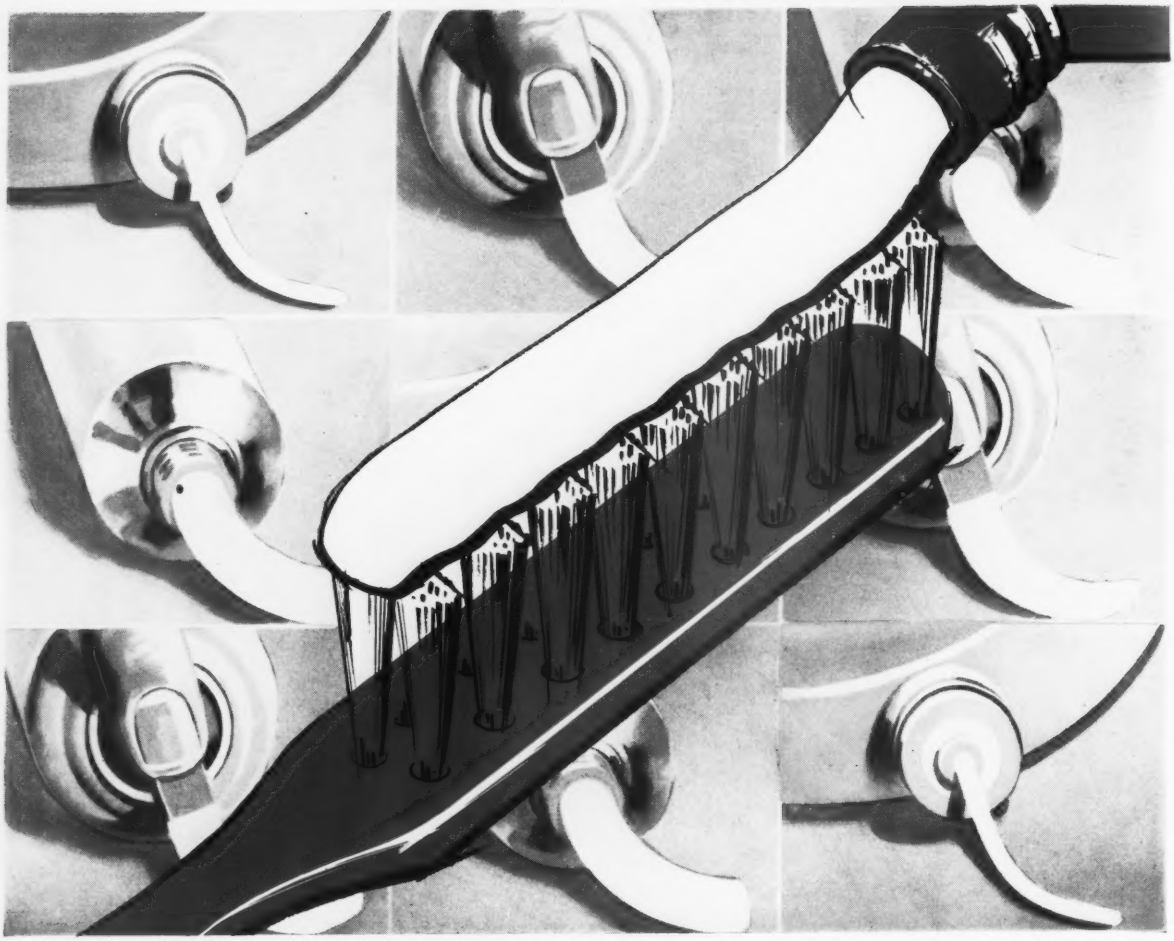
RESEDALIA, an acetal.
VERONOL, an aldehyde.
CYCLAMAL, cyclamen aldehyde.
ROSANØL, an acetal.
PHENYL ACET ALDEHYDE PHENYL GLYCOL ACETAL
TERTIARY BUTYL DI METHYL CUMARIN
ORYCLON
FLOWER OIL WHITE LILAC.

VERONA
Aromatics Dept.

PRODUCTS BUILD SALES FOR *Your* PRODUCTS

VERONA CHEMICALS A Division of Verona-Pharma Chemical Corp.

Plant and Main Office: 26 Verona Avenue, Newark, N. J. 1210 Rosedale Avenue, Chicago, Ill.



For free flowing "squeeze-ability"

Glycerine gives creamy body to toothpastes and other formulations. It permits them to flow freely through container openings of any shape, any size.

Why? Because Glycerine offers exceptionally good control of body and consistency . . . lubricates . . . prevents settling . . . resists hardening . . . prolongs product life throughout shipping, storage and use.

Glycerine offers you more than an unique balance of properties. It is stable in price, dependable in supply, compatible with most ingredients favored for pharmaceuticals and toilet goods. Its usefulness continues to grow. We'd like to send you our 18-page booklet: "Glycerine Properties and Uses." Address your request to the Glycerine Producers' Association.

Properties

HYGROSCOPICITY • STABILITY

SOLVENT POWER • VISCOSITY

NONVOLATILITY • NONTOXICITY

TASTE • COMBINING WEIGHT

ADVANTAGES THAT COME WITH . . .

Glycerine

Applications

HUMECTANT • CARRIER

SOLVENT • LUBRICANT

SOFTENER • EMOLLIENT

ANTI-FREEZE • ALKYD BASE

GLYCERINE PRODUCERS' ASSOCIATION • 295 MADISON AVENUE, NEW YORK 17, N. Y.

"Gentlemen, I think we are working in the wrong diseases. Drugs for Athlete's Foot, Dandruff, Coughs and Colds have reached the point of saturation."

Keeping Posted

1957 Cosmetic Sales Set Record

A new record for sales of perfumes and cosmetics at retail, of $1,430,700,000 was set in 1957, according to the Toilet Goods Association, which points out that this figure is 8.3 per cent higher than the 1956 record figure of $1,321,000,000.

The increase was fairly general throughout the entire range of toilet goods, says the T.G.A., but dentifrices again showed remarkable gain of more than 12 per cent, and sales of these products through food stores increased by more than 16 per cent. Sales in variety stores were again slightly lower. Shaving preparations, due to the continued popularity of the more expensive (per shave) aerosol, again increased by nearly 8½ per cent with food stores gaining more than 12 per cent. It is probable, continues T.G.A., that total units of shaving creams and similar preparations were not greater and probably were lower than in the preceding year.

The increase in hair preparations which has been a feature of the industry over the past several years showed some tendency to level off, says T.G.A. Shampoos gained but not at the previous rate and the bulk of the still sharp increase in hair preparations was supplied by aerosol sprays. This group of preparations has had a phenomenal growth over the past several years and there is no sign of diminution.

Fragrance products as a whole showed a slight increase over 1956 but this increase was largely due to heavier sales of toilet water and cologne, says T.G.A., which says that actual perfume sales were practically the same as in 1956 although some houses showed relatively sharp increases.

Sales through every type of outlet showed a substantial gain over the previous year but the sharpest gains were made in the food category and for the first time sales through food stores were higher than sales from house-to-house and approached the total sales through department stores. However, it should be pointed out, according to T.G.A., that sales are not strictly comparable between food and department stores because of the completely different types of products handled by these outlets. Drug store sales showed a percentage decline and fell below 29 per cent of the market for the first time.

The following table shows sales through the various types of outlets since 1950:

	Chain & Independent Drug Stores	Dept. Stores & Specialty Shops	Food Stores	House-to-House	Ltd. Price Variety Stores	All Other Outlets
1950	37.0%	27.0%	6.1%	14.0%	11.0%	4.9%
1951	36.0%	27.0%	8.5%	16.2%	10.0%	3.8%
1952	34.5%	22.0%	14.0%	17.5%	8.5%	3.5%
1953	32.0%	22.1%	15.5%	18.3%	8.4%	3.7%
1954	30.2%	22.5%	17.7%	19.4%	7.5%	3.3%
1955	29.4%	22.3%	17.9%	20.0%	7.3%	3.1%
1956	29.3%	21.6%	19.1%	19.6%	7.2%	3.2%
1957	28.6%	20.6%	20.3%	19.7%	7.3%	3.5%

Upjohn Awarded $5,000 in Substitution

The sum of $5,000 was recently awarded to The Upjohn Company in a case involving substitution on prescription of Cheracol, Cortef, and Zymacap by the Pelham Pharmacy of New York. The $5,000 was for attorney's fees incurred by Upjohn. Pelham Pharmacy also had to court costs and profits ($13.34) made by the substitutions. Judge Edward J. Dimock of the U. S. District Court for the Southern District of New York held that substitution constitutes trademark infringement and unfair competition. He said: ". . . the offense which has been committed is an extremely serious one, and I think that it is for the public good that the damages which must be paid as a result of such an offense should be substantial." (The award) would serve to defray the expense of bringing a suit of this sort . . . and . . . that it would serve as an example to others, and perhaps in that way reduce the number of cases that the plaintiff had to fight."

T.G.A. Scientific Section

Papers to be presented before the Spring meeting of the Scientific Section of the Toilet Goods Association, on Thursday, June 5 in the Sert Room of the Waldorf-Astoria Hotel, New York, are:

Shelf and Accelerated Testing of Perfume Com-

you too can profit from stability and uniformity in Stearic Acid

here's how Emersol® 120 keeps shaving cream at top quality at all times...

Case History No. 83-09: "For years, this well-known manufacturer of a popular shaving cream has used Emersol 120 Standard (double-pressed) with very excellent results. However, to keep their foremost position, their research group periodically evaluates competitive stearic acids. The result is always the same...their shaving cream made from Emersol 120 has better odor, requires less processing adjustments and has better keeping ability (extended shelf life). The latter factor means greater resistance to such undesirable changes during aging as rancidity, yellowing, unappealing appearance, and unsatisfactory performance, all of which discourage repeat orders."

This actual experience is only one of the many instances where the use of Emersol 120 results in tangible benefits. These same advantages apply to all products made from stearic acid and are imparted by all grades of Emersol Stearic Acids. And since they cost no more than competitive grades, you have nothing to lose and everything to gain by ordering all your stearic acids from Emery. Call us the next time you are in the market.

Emery **Fatty Acid Sales Department**

Emery Industries, Inc., Carew Tower, Cincinnati 2, Ohio

New York; Philadelphia; Lowell, Mass.; Chicago; San Francisco; Cleveland; Ecclestone Chemical Co., Detroit

Warehouse stocks also in St. Louis, Buffalo, Baltimore and Los Angeles

Export: Carew Tower, Cincinnati 2, Ohio
In Canada: Emery Industries (Canada) Ltd., 639 Nelson St., London, Ontario.

Emery Industries, Inc.
Dept. D-5, Carew Tower
Cincinnati 2, Ohio

Please send me your 28 page Emeryfacts titled "Emersol Stearic Acids".

Name.....*Title*.....

Company.....

Address.....

City.....*State*.....

pounds in Finished Cosmetic Preparations, by Victor Di Giacomo and Walter Wynne, Givaudan-Delawanna, Inc.; A Study of the Penetration of Aluminum Salts into Excised Skin, by Irvin H. Blank and Edith Gould, Department of Dermatology, Harvard Medical School, and John L. Jones Jr., the Reheis Company; Establishing the Safety of Fluoride Dentifrices, by S. L. Cooper, The Procter & Gamble Company; Principles for Evaluation of the Safety of Cosmetics from the Standpoint of Inhalation, by Henry J. Horn, M.D., Hazelton Laboratories; Lanolin Derivatives as Solubilizers, by Lester I. Conrad, Kalmen Motiuk, and Henry Maso, Research Laboratories, American Cholesterol Products; Antiseptics versus Antibiotics for the Control of Skin Bacteria, by Dr. Samuel M. Peck and Dr. Irwin Kantor; New Approaches to the Study of Human Horny Layer, by Peter Flesch, Department of Dermatology, University Hospital, University of Pennsylvania; Pressure Packaging with Nitrogen, by Morris J. Root, Technical Director, G. Barr & Company.

The 1958 CIBS Awards will be presented at the luncheon, and a vice-chairman of the Scientific Section will be elected just prior to adjournment for lunch.

Du Pont Amino Acid Study Grants

Research grants totaling nearly $400,000 have been awarded over the past five years by the Du Pont Company to universities, colleges, medical schools and laboratories to supplement the company's own studies of the nutritional role played by amino acids. Du Pont, now producing L-lysine monohydrochloride, is supporting four types of amino acid research. The projects include research into the fundamental aspects of amino acid metabolism, a study of lysine's pharmacological properties, and studies to determine what nutritional improvements can be "engineered" into specific foods, such as bread. Research is also being stimulated to define the value and place of L-lysine monohydrochloride as a general dietary supplement. In addition, an extensive program of clinical research is studying the effects of amino acids on various diseases. Institutions participating in amino acid research projects include the Universities of Miami and Pennsylvania; Harvard, Cornell, Tufts, Tulane, Vanderbilt and Columbia Universities; the Central and Panamanian Institute of Nutrition; Hahnemann Medical College of Philadelphia, and others.

A.M.A. Studying Drug Samples

A study of the part that drug samples play in medical practice is being sponsored by the American Medical Association as a service to the pharmaceutical industry. Taylor, Harkins and Lee, Inc., of Philadelphia, an independent medical marketing research firm, is conducting the study which is being directed by Roy C. Mitchell, director of the firm's research and development department. The program is designed to provide basic facts on the uses to which drug samples are put by practicing physicians. Information on what actually is done with samples reaching a physician will be studied in relation to the kinds of patients he sees and the conditions he treats, the therapeutic types of drugs which he uses, and other aspects of his practice. The study will be conducted during the Spring and early Fall on a nationwide basis, and will be made available in a series of detailed reports.

Dollar Volumes of Drugs in 1957

Antibiotics were again responsible for the largest category of ethical drugs in 1957, sales totaling $406 million, or 24 per cent of all ethical sales at manufacturers' levels, which totaled $1,677 million in 1957, according to Modern Medicine. In 1956, antibiotics totaled $353 million, of a total of $1,473 million for all ethical drugs for 1956.

Other leading classifications given are: Vitamins and hematinics for 1957 $230 million, against $220 million for 1956; Cortisone, hydrocortisone, prednisone, prednisolone for 1957 $88 million, against $89 million for 1956; Other endocrines for 1957 $50 million, against $50 million for 1956; Sulfa drugs for 1957 $42 million, against $35 million for 1956; Antihistamines for 1957 $38 million, against $35 million for 1956; Barbiturates for 1957 $40 million, against $44 million for 1956; Biologicals for 1957 $150 million, against $97 million for 1956; Aspirin for 1957 $28 million, against $25 million for 1956; tranquilizers for 1957 $195 million, against $135 million for 1956; all others for 1957 $410 million, against $390 for 1956.

Domestic ethical sales of $1,451 million for 1957 are estimated by Modern Medicine as being $810 million on prescription, $299 million to physicians, and $342 million to hospitals and institutions. These compare with 1956 figures of $697 million on prescriptions, $259 million to physicians, and $296 million to hospitals and institutions, for a total of demestic sales of $1,252 million. Exports of ethical drugs for 1957 are given at $226 million, against $221 million for 1956.

The largest gain in 1957 (54 per cent) over 1956 occurred in the biologicals mainly due to the polio and Asian flu vaccines. The tranquilizers, with a boost of 44 per cent in 1957 over 1956, registered the next largest gain. Tranquilizers account for about 17 per cent of total ethical drug sales and for about 8 per cent of prescription sales, indicating that about one-half of tranquilizer sales are made either through physicians or to hospitals and institutions.

"In the prescription market, says Modern Medicine, the leading products are the antibiotics, hormones, tranquilizers, vitamins, and analgesics . . . Discovery of a drug for the treatment of cancer would almost certainly push the total for ethical drug sales over the $2 billion mark. With the tremendous amount of research in all fields now being devoted to the search for new drugs, this $2 billion mark for ethical drugs should be attained within the next two or three years."

Perfume Not French

Even though the concentrate from which a perfume is made comes from France, a perfume made by blending this concentrate with domestic alcohol cannot be represented as being of French origin, says the Federal Trade Commission in ruling against such a presentation of White Christmas perfume. Also for-

How damp can you get dry **vitamin A** and still hold potency?

We held *Myvax® Dry Vitamin A Palmitate* in uncoated tablets under the extreme test condition of 79% relative humidity for 60 days at room temperature. When we retrieved the tablets we found they still had 96% of their original potency. This being an orderly universe, we expect you would find the same exceptional stability in your own tests. That's what you get with a palmitate, made as we make it, carried as we carry it.

Enough of stability. *Myvax Dry Vitamin A Palmitate* is a fine product in every way. It has 500,000 units of vitamin A to the gram. Resistance to crushing under tableting pressure is excellent. Particle size is just right for easy handling and incorporation. The carrier is edible gelatin. If you want vitamin D, we can add it in several potencies.

Samples? Analyses of the vitamin A content of finished products you make with *Myvax Dry*? Cooperation in stability tests? Just write ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York, Chicago, and Memphis • W. M. Gillies, Inc., West Coast • Charles Albert Smith Limited, Montreal and Toronto.

leaders in research and production of vitamin A

DPi

Also . . . vitamin E . . . distilled monoglycerides . . . some 3600 Eastman Organic Chemicals for science and industry

Distillation Products Industries *is a division of* **Eastman Kodak Company**

bidden in the FTC Order are such pricing claims as "$18.50 per ounce." This fictitiously high price, says FTC Chairman Gwynne, misleads buyers into believing that they are getting a bargain "by purchasing at the advertised special or 'sale' prices ($1.00 to $1.15 per ounce)."

Borden Buys Marcelle Cosmetics

Marcelle Cosmetics, Inc., producer of hypoallergenic cosmetics, and Dremabase, a topical ointment base for skin irritations, has been purchased by the Borden Company and will be integrated with the Borden Pharmaceutical Division, formerly known as Borden's Prescription Products Division. Marcelle's two-story plant in Chicago is included in the acquisition. Philip Blazer, former Marcelle president, will serve as a consultant, and most employees will continue with Borden.

It is anticipated that expansion by Borden in the field of allergy management products will result. Borden has been marketing Mull-Soy, a soybean milk prescribed for children and adults allergic to cow's milk, and Bremil, an infant feeding formula. Hypoallergenic cosmetics are generally prescribed for women allergic to one or more of the ingredients often found in standard cosmetics. A recent survey showed that one in ten women is allergic to one or more of the ingredients used in standard cosmetics. These include such substances as lanolin, some essential oils used in perfumes, some starches, gums, and organic dyes.

Mr. Blazer was a pioneer in this field. Working with Dr. Morris Fishbein of the American Medical Association, he produced a line of cosmetics which eliminated many allergy-causing substances. The Marcelle line was accepted for advertising in the Journal of the A.M.A. in the early thirties. Originally called non-allergic cosmetics, it was later agreed by Blazer and Fishbein that there could not be a 100 per cent allergy proof substance, and they jointly decided on the name hypoallergenic to describe the Marcelle line.

Borden points out that there are four manufacturers of hypoallergenic cosmetics: Marcelle Cosmetics, Texas Pharmacal Company, Ar-Ex, and the Almay Division of Schieffelin & Co. In addition, says Borden, smaller companies in the field include Beauty Counselers, Inc., which also makes a line of standard cosmetics, and Luzier's, a division of Bristol Myers Company. Hazel Bishop produces a hypoallergenic lipstick, and Firmenich Incorporated produces a line of hypoallergenic perfumes.

Number of Doctor Visits

Based on the first three months—July, August, and September—of a government health survey just issued in pamphlet form, people in this country see their physicians at the rate of 4.8 times a year. Physicians' visits to homes made up only eight per cent of the total. This category was highest in 65-and-over group, totaling 21 per cent. Office visits were two-thirds of the total. In the 25-44 group, 75 per cent was in this category. The remaining calls were classified as hospital, clinic, and telephone. Sixteen per cent of these for children under five were phone calls.

Women see physicians oftener than men, their rate being 5.5 visits per year, against 3.9 for men. Up to fifteen years of age, boys visit the doctor more often than girls, but in the 15-to-24 group the situation is reversed, 6.3 visits against 3.4. The highest rate is that of women over 65, for which the average is 7.6 visits per year. Urban dwellers see the doctor at the rate of 5.1 visits per year, against 4.5 for the rural non-farm populace and 3.6 for the farm group.

Royal Jelly Research Foundation

The Royal Jelly Research Foundation was organized early last month in the City of Valdosta, Georgia by representative producers and dealers in this material which has been the subject of much controversy as its use has expanded widely, principally in cosmetics, but to some extent internally. The Foundation will promote research work in royal jelly primarily in the field of medicine. Producers, dealers, doctors and other scientists, and manufacturers using royal jelly, are eligible for membership. It was conceded by those forming the new group, that there is a great need not only for new work, but also to have confirmed here the medical research work already done in Europe so as to place our knowledge of royal jelly on a basis readily acceptable to the medical profession of this country, to our ethical pharmaceutical manufacturers, to our cosmetic manufacturers, and to our government regulatory authorities. Substantial quantities of royal jelly have been pledged to the Foundation, as well as sufficient funds to assure a well financed operation that can get under way immediately.

The Foundation will be governed by the five following directors: R. B. Willson, New York, chairman; Leslie Little, Shelbyville, Tennessee, vice-chairman and treasurer; George F. Hohmann, Napa, California, secretary; E. B. Ault, Westlaco, Texas; and Garnett G. Puett Jr., Hahira, Georgia.

Some medical research projects already under way will be embraced by the Foundation. Only that will qualify for publication in high ranking scientific journals will be supported.

Fourth Polio Injection Not Necessary

Routine fourth injections of poliomyelitis vaccine are not considered necessary according to the Polio Advisory Committee to the Surgeon General. The concensus of the committee is that all available evidence points to the high effectiveness of the present three dose schedule that is maintaining an effectiveness of approximately 90 per cent. Studies also showed that substantial immunity continued for at least three or four years in the vast majority of those vaccinated. Local outbreaks of polio might cause exceptions to be made.

Plough, Inc. Celebrates 50th Anniversary

Plough, Inc. is celebrating its 50th anniversary. In March of 1908, sixteen-year-old Abe Plough—still head of the company—set himself up in business under the name of The Plough Chemical Company with $125 borrowed from his father. Occupying a small room above his father's furniture shop in Memphis, Tennessee, Mr. Plough started with one

SHULTON
HELIOTROPINES
There are no finer...Shulton, the world's leading producer, has a heliotropine to suit your particular requirements. Perfume grade, setting the highest standard in odor quality; soap grade, combining fragrance excellence with fragrance economy; and technical grade, providing a chemical of highest purity for industrial applications. Then, too, if stability of color and odor are a problem in special alkaline situations, investigate Shulton's Heliotropine Liquid.
Technical data, samples, and additional information, available on request.
SHULTON
FINE CHEMICALS
FINE CHEMICALS DIVISION
SHULTON, INC.
45 ROCKEFELLER PLAZA
NEW YORK

product—Plough's Antiseptic Healing Oil—and started an unbroken record for continuous advertising by ordering a small advertisement to appear regularly in the Memphis Commercial Appeal. In 1951 Plough, Inc. moved into a new multi-million dollar plant to consolidate operations which had expanded into eight different buildings in Memphis. In 1957, sales were $29,473,214, profits $2,024,679. The company stock is listed on the New York Stock Exchange.

Society of Cosmetic Chemists

The Society of Cosmetic Chemists will confer its Special Award to Professor William Montagna, Arnold Biological Laboratory, Brown University, Providence, R. I., at its semi-annual meeting to be held Wednesday, June 4, at the Hotel Commodore, New York.

Papers to be presented at the meeting are: Percutaneous Absorption of Vitamin A, Dr. Albert E. Sobel, Jewish Hospital, Brooklyn, N. Y.; Effects of Metabolite Analogs on the Formation of Tissue Components, Dr. H. George Mandel, George Washington University, St. Louis; The Formulation of Detergent Bars, John W. McCutcheon, New York; The Use of Infra Red Spectroscopy in Studying the Composition of Essential Oils, C. L. Teitelbaum, Battelle Memorial Institute, Columbus, Ohio; Skin Problems of the Older Woman, Dr. Alice E. Palmer, Grace Hospital, Detroit; The Role of Ultraviolet absorbers in Cosmetics, Dr. F. E. Woodward, Antara Chemicals Division, General Aniline & Film Corporation, New York; Nitrogen as Propellent in Pressure Packaging, H. R. Shepherd, Aerosol Techniques, Bridgeport, Conn.

Predictions in Medicine

Important break-throughs are imminent in the fields of heart disease, cancer, diabetes, viral infections, mental illness and other conditions, according to Dr. Theodore G. Klumpp, president of Winthrop Laboratories, who said that the American people can confidently anticipate such new advances from the continuing collaboration of the medical profession, pharmacy, and the pharmaceutical industry. Speaking at the dinner at which the Rusby Award was given to Dr. Rudolph O. Hauck, president of Knoll Pharmaceutical Company, and Dr. Robert L. Swain, editor of Drug Topics, Dr. Klumpp noted the "tremendous gains in the conquest of disease and prolongation of life in the first half of the twentieth century," and expressed confidence that "through experience we have built a ladder of scientific know-how that should be of invaluable assistance in solving some of the problems that still remain."

An encouraging outlook was called justified in relation to the fight against the number one health menace, arteriosclerosis.

"The onset of arteriosclerosis is now known to occur earlier in life than previously suspected, and it progresses with advancing years. But there is good reason to believe that it is not merely a manifestation of the aging process and as inevitable as death itself. Its association with diabetes and other metabolic diseases suggests that it, too, is the product of metabolic change, and its development is accentuated by overeating and reduction in physical activity."

Medical science, Dr. Klumpp feels, has farther to travel before conquering cancer. What is needed is new knowledge of the "fundamental biology" of the disease, which likely will be forthcoming sooner than expected from the numerous research groups studying the problem. He cautioned against unrestrained faith in the "biological effects and potentialities of atomic energy, radioactivity, and radioactive elements." While agreeing that radioactive compounds have unlimited possibilities as research tools, he added: "We are confronted with the sad fact that the net biological effect of radiation is destruction and it doesn't appear that we will get very far therapeutically with energies that are purely destructive in nature."

VCS Formula and Pounds-Off

General Products Corporation, Los Angeles, is charged by the Federal Trade Commission with misrepresenting the benefits of VCS Formula, and Pounds-Off. Since VCS lacks vitamin A, calcium, and phosphorus, it does not supply all essential vitamins and minerals, says the Commission. VCS is claimed to be of value in treating a tired-out, run-down feeling and other symptoms or conditions resulting from vitamin or mineral deficiency. In reality, says the Commission, it will be beneficial only in those cases resulting from a deficiency in the vitamins and minerals supplied in effective amounts by the product, when directions are followed.

A person using the Pounds-Off plan will not lose a specific or predetermined amount of weight in a predescribed period of time, says the Commission, and the anti-hunger ingredient in the product is not a new discovery. The directions for the Pounds-Off plan require taking the product twice a day, rather than once a day as claimed.

Hair Preparations Claims

Lanole Products, Detroit, Alex Sales Co., Oklahoma City, are charged by the Federal Trade Commission with misrepresenting hair preparations. Lanole Products, says the Commission, markets a kit containing a brush and four products: Lanole Anhydrous or Prophylactic Shampoo, Lanole Scalp Lotion, Lanole Lasco Ointment, and Professional Shampoo. Claims in literature are: Ninety per cent of baldness or scalp trouble would never occur if it were not for poor, improper scalp care. . . ; Bad scalp hygiene is the direct cause of more scalp trouble and falling hair than any other single factor; and Your scalp hygiene must coordinate the laws of nature, if it violates these laws, there surely will be a penalty—baldness, dandruff, infection, seborrhea, etc. Bad scalp hygiene and scalp infection are not the principal causes of excessive hair fall and baldness, says the Commission, which claims that the great majority of cases are due to "male pattern baldness" and for this type Lanole's preparations are of no value whatever.

Alex Sales Co., marketers of Don's Hair Formula, claimed its product is "guaranteed to grow hair to your satisfaction even if you have been partially bald or 'slick bald' for years; In the vast majority of

cases, these (hair) follicles will produce growth which will delight the user. . . ; and Baldness . . . is frequently caused by diseases of the scalp." The Commission repeats in this case its statement regarding male pattern baldness, and claims that the product is of no benefit.

Virginia Gets New Fair Trade Act

Virginia, in which state the fair trade act had been declared completely void by the highest court in that state, has enacted a new fair trade act which is expected to be upheld by the courts. Therefore, there are now fourteen states in which the fair trade acts are inoperable, and three states in which they were never enacted. This makes a total of seventeen states, plus the District of Columbia (which never had fair trade legislation), in which fair trade cannot be enforced.

The fourteen states in which laws were upset by the courts are: Nebraska, in which the entire act was declared void, and the following thirteen states in which the non-signer clause was declared invalid. Arkansas, Colorado, Florida, Georgia, Indiana, Kansas, Louisiana, Michigan, New Mexico, Ohio, Oregon, South Carolina, and Utah. Missouri, Texas, and Vermont are the three states that have never had fair trade legislation.

Of the thirty-one remaining states in which fair trade is still effective, the fair trade acts of the following sixteen states have been upheld by the highest courts of these states: California, Connecticut, Delaware, Illinois, Iowa, Maryland, Massachusetts, Mississippi, New Jersey, New York, North Carolina, Pennsylvania, South Dakota, Tennessee, Washington, and Wisconsin. In Arizona, Kentucky, and West Virginia, appeals to the high courts are pending.

Fritzsche Award to Buchi

Professor George H. Buchi of the Massachusetts Institute of Technology, an authority on perfume chemistry, received the Fritzsche Award, consisting of a gold medal and $1,000, at the 133rd national meeting of the American Chemical Society, April 14, in San Francisco. Dr. Buchi gave his award address on The Structure and Synthesis of Some Natural Perfumes before the ACS Division of Organic Chemistry. Dr. Buchi is considered a pioneer in the application of new techniques to determine the structure of raw materials used by the perfume industry. He has made important contributions to the understanding of such materials as patchouli alcohol, and derivatives of ambergris and agathic acid. A native of Switzerland, Dr. Buchi received an M.S. in 1945, and D.Sc. in 1945 in Zurich.

Schering to Screen for N.I.H.

Schering Corporation and the National Institutes of Health have contracted for the testing of chemicals and antibiotic culture filtrates for anti-cancer activities and for screening methodology studies. The contract is for $240,000. The project is designed for screening against three specified tumors and also calls for investigations into newer methods of screening anti-cancer compounds.

Cough and Cold Remedies Number 6

The importance of cough and cold remedies to the retail drugstore was given by Yahr-Lange as occupying sixth place among proprietaries from point of sales, and accounting for 8.59 per cent of all proprietary sales. These products also account for 9.9 per cent of all proprietary transactions with an average unit sale of 48 cents. The average gross margin is about 35.41 per cent of sales; total operating costs are 24.87 per cent of sales; net profit about 10.54 per cent of net sales. The group contributes about 9.9 per cent of the net profit of the proprietary department.

The sales breakdown of cough and cold remedies is: Antihistamines, 20.1 per cent; Cough Syrups, 19.3 per cent; Chest ointments and rubs, 17.6 per cent; Cold capsules and tablets, 14.2 per cent; Lozenges, cold-sore lotions, etc., 13.6 per cent; Nose drops and inhalants, 11.2 per cent; Inhalers, 4 per cent.

Parke, Davis Builds in Colombia

Parke, Davis & Company has begun construction of a combined manufacturing laboratory and branch sales office in Bogota, Colombia. Being built on a 2½ acre plot, completion is anticipated at the end of the year. The manufacturing section will be located on the first floor, with executive and branch sales operations on the second floor. A small separate power station is also being erected. A complete line of Parke-Davis capsule and fluid pharmaceutical products will be produced, including Chloromycetin.

Life Expectancy of Nonwhites

Within the last half-century the life expectancy of the typical nonwhite infant in this country has almost doubled, Health Information Foundation reports. The nonwhite infant born in 1900 could expect an average lifetime of only 33 years, but by 1955 the figure had risen to 63.2 years. This was still seven years less than the comparable average for whites, but by 1955 nonwhite was down to 10.8 per 100,000 population, only 3.4 above the figures for whites. According to the U. S. Census Bureau, nonwhites today constitute 11 per cent of the nation's population—18.8 million in mid-1957. The vast majority of persons classified as nonwhite are Negroes, and two-thirds of the nonwhite population lives in the South.

Study Harmful Parental Attitudes

The Mennen Baby Foundation has launched a nation-wide study of harmful parental attitudes toward pregnancy and baby care. Doctors, nurses, hospitals, and Red Cross chapters are supplying information about the pre- and post-natal fears, guilt feelings and other negative attitudes most frequently encountered in parents. Areas proposed for study include: fear of handling the infant; guilt feelings about the lack of immediate mother instinct toward the newborn; worries about whether the baby is progressing "normally"; and over-protection of the infant.

"What we seek to accomplish with this study," says William G. Mennen Jr., president of the Mennen Baby Foundation, "is to bring these harmful attitudes out into the open and help dispel them."

BEAUTY OILS • CREAM HAIR OILS • COLD CREAMS • CLEANSING CREAMS • BEAUTY LOTIONS • BRILLIANTINES • HAND CREAMS • DEODORANT CREAMS AND STICKS • BRUSHLESS SHAVING CREAMS LAXATIVES • OINTMENTS • EMOLLIENTS
YOU CAN DO

wonderful things

with PENN-DRAKE WHITE OILS

PROPERTIES

Odorless; Colorless; Tasteless; Non-Reactive; Fluid at Low Temperatures; Relatively Low Cost; Viscosities, between 38 and 360 S.S.U. at 100°F for Regular Grades; Molecular Weights, between 160 and 400.

The highest order of stability and purity ever assured in White Oils—this is achieved through Spectrophotometric Control by Penn-Drake. For White Oil users it allows compounding superior quality products with longer shelf life. Penn-Drake Technical Service gladly will work with you in studying possible application of White Oils to your needs—employing regular or custom-refined grades. *Write for detailed specifications.*

Penn-Drake®
WHITE OILS

penn drake products

PENNSYLVANIA REFINING COMPANY
Butler, Pennsylvania

Branches: Cleveland, Ohio and Edgewater, N. J.

Beauty of fragrance

...made-to-measure for your success!

eauty of fragrance is elusive...
indefinable...yet vital to the success of
a perfume or cosmetic!

It takes imagination to conceive a beautiful,
original fragrance...skill and knowledge
to give it exactly the
right distinction and character.

Givaudan's imagination, skill and knowledge
are reflected in many successful creations.
They can provide you with
matchless fragrances—made-to-measure
for your success!

GIVAUDAN-DELAWANNA, INC.
321 West 44th Street • New York 36, N. Y.

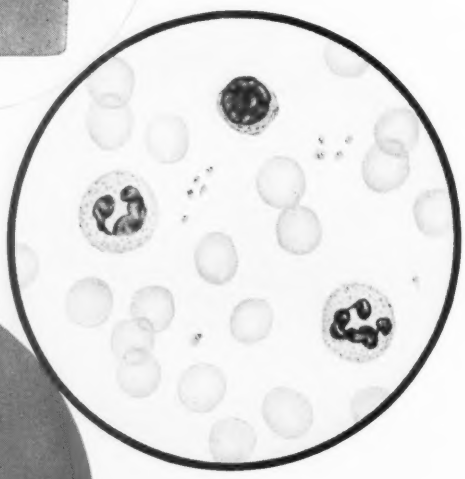
GIVAUDAN

RECENT NOTICE

No new drug application is required when Toleron is distributed with over-the-counter labeling which recommends it for the prevention or treatment of iron deficiency anemia in dosages which do not exceed 800 mg daily.

Pharmaceutical manufacturers will profit

by this **new aid** *to producing a normal blood picture*



Mallinckrodt®

Toleron*

BRAND OF FERROUS FUMARATE

provides a readily available source of iron

when used alone or as a constituent of drug preparations.

In a search for ferrous iron in a form that would be *well tolerated*, have a *high iron content*, and yet be *exceptionally stable*, Mallinckrodt research discovered TOLERON, a new standard in iron therapy.

When TOLERON is administered orally to human patients suffering from an iron-deficiency anemia, the rate of hemoglobin regeneration has been found to be optimal when compared with ferrous sulfate and ferrous gluconate. And important . . . there appears to be little, if any, gastrointestinal discomfort.

TOLERON may be combined with various substances in tablets, capsules and other oral dosage forms. It may be tableted employing the usual granulating solutions, fillers, lubricants and disintegrating agents. Uncoated TOLERON tablets are stable and do not possess the marked "iron taste" which characterizes the uncoated tablets of most iron compounds.

Write for technical data on TOLERON

MALLINCKRODT CHEMICAL WORKS

SECOND & MALLINCKRODT STREETS, ST. LOUIS 7, MO. • 72 GOLD STREET, NEW YORK 8, N. Y.

CHICAGO • CINCINNATI • CLEVELAND • DETROIT • LOS ANGELES • PHILADELPHIA • SAN FRANCISCO

IN CANADA: **MALLINCKRODT CHEMICAL WORKS LIMITED** • MONTREAL • TORONTO

*Trademark

DRUG AND COSMETIC OPERATIONS 1957

BY JOSEPH KALISH, PH.D.

Tabulations given here, backed up by reports for the first quarter of 1958, underline the recession-resistant quality of drug and cosmetic operations. Except in special situations, progress in sales and income can be expected. Cosmetics and drugs remain distinctively different types of business, utilizing talents of quite different kinds of people, but data must so far be subdivided that we can only conclude that generalizations tend to be risky even within a group, that each company or operation can be judged only by its own reported results.

Thus, the two largest reporting companies in cosmetics, Avon and Revlon, earned 9.3 and 9.4 per cent respectively, after taxes, as per cent of sales. Well managed Shulton earned 10.0 per cent while other average sized companies showed a lower profit margin.

The spread in pharmaceutical profit margins was much greater, being topped by G. D. Searle, as usual, at 22.6 per cent, followed by Schering, SKF, Park, Davis and Lilly.

In mixed pharmaceutical, cosmetic and chemical operations, profit varies on either side of the 10 per cent mark. The obvious conclusion to be drawn is that a pharmaceutical specialty permits the greatest margin and least costly exploitation. Less obvious, but no less true, the high margin specialty almost always comes out of an expensive research program.

PHARMACEUTICALS, COSMETICS, CHEMICALS, ETC.
(In Thousands of Dollars)

	1957				1956			
	Net Sales	Cost of Goods	Sell. Adm. etc. Exp.	Net Income	Net Sales	Cost of Goods	Sell Adm. etc. Exp.	Net Income
OLIN MATHIESON CHEM. CORP.	592,877	397,737	98,320	36,377	598,107	404,301	96,984	44,791
COLGATE-PALMOLIVE CO.	506,910	283,797	182,738	19,930	508,523	285,735	188,460	15,477
AMERICAN CYANAMID CO.	532,479	267,662	109,633	51,348	500,651	269,541	94,279	44,247
AMERICAN HOME PRODUCTS CORP.	347,249	140,388	122,035	38,618	295,483	123,179	102,318	31,250
JOHNSON & JOHNSON—DOMESTIC	260,734	157,841	71,634	13,169	246,517	152,063	64,565	12,947
JOHNSON & JOHNSON—FOREIGN	58,042	35,055	15,509	3,769	49,480	30,625	13,062	2,635
CHAS. PFIZER & CO., INC.	207,152	101,142	65,083	22,909	178,362	91,440	57,308	18,254
STERLING DRUG, INC.	197,703	74,889	86,492	18,815	177,731	67,778	77,024	16,919
MERCK & CO., INC.	186,937	83,675	63,056	23,094	172,432	81,906	53,962	20,224
WARNER-LAMBERT PHARM. Co.	176,290	56,049	67,610	14,330	153,320	50,952	58,478	11,426
VICK CHEMICAL CO. (JUNE 30)	94,796	49,323	29,286	7,889	83,652	44,031	24,794	7,008
LEHN & FINK PRODUCTS CORP. (JUNE 30)	27,321	24,798		1,243	25,729	23,756		964
CHEMWAY CORP.	6,695	2,543	3,856	118	7,351	2,991	3,865	313

Colgate-Palmolive Company—Reduced sales were due to the loss of Vaseline sales, now taken over by Chesebrough-Pond's. Divisionalized organization of the company was completed in 1957. Two principal domestic divisions are Household Products and Toilet Articles. Since 1937, sales in the domestic Toilet Articles Division have increased six times and sales of Colgate Dental Cream have grown more than ten times. New products in the period include Halo and Lustre-Cream shampoos, aerosol shaving creams and Veto deordorants.

American Cyanamid Company—New products in 1957 were Achromycin V, Kynex, Pathibamate, Filibon and Aristocort. Research and development expense was $22,695,000 in 1957, about the same as in the preceding year.

Johnson & Johnson—New pharmaceutical products were Liquiprin Analgesic for children, Johnson's Medicated Powder, Rarical Tablets, Ortho Anti CDE Serum.

Merck & Company—Vitamins, steroid hormones and antibiotics accounted for 58 per cent of the company's sales volume; foreign business was 27 per cent. Diuril diuretic was the major new product of the year and the company produced one-third of the total Asian flu vaccine. The Merck Sharp & Dohme Division added 26 new products. Research expenditures were $13,100,000, compared with $11,500,000 in 1956.

PHARMACEUTICALS
(In Thousands of Dollars)

	1957				1956			
	Net Sales	Cost of Goods	Sell., Adm. etc. Exp.	Net Income	Net Sales	Cost of Goods	Sell., Adm. etc. Exp.	Net Income
AMERICAN HOME PRODUCTS CORP.	239,000	——	——	——	204,000	——	——	——
ELI LILLY AND COMPANY	199,801	133,448		32,297	181,530	117,883		30,053
PARK, DAVIS & CO.	162,288	54,981	56,413	27,930	134,093	52,631	48,520	17,646
STERLING DRUG, INC.	154,560	——	——	——	138,778	——	——	——
SMITH, KLINE & FRENCH LABS.	115,489	35,023	37,736	20,553	104,608	32,715	31,739	18,060
ABBOTT LABORATORIES	111,271	42,599	41,661	12,681	96,789	37,918	35,603	10,859
OLIN MATHIESON CHEMICAL CORP.	104,939	——	——	——	——	——	——	——
WARNER-LAMBRT PHARMACEUTICAL CO.	88,665	——	——	——	73,300	——	——	——
SCHERING CORPORATION	80,692	16,580	36,950	15,365	72,066	14,960	31,779	13,868
CHAS PFIZER & CO., INC.	71,467	——	——	——	67,800	——	——	——
MEAD JOHNSON & CO.	51,567	21,378	20,864	4,865	45,277	19,005	17,317	4,061
NORWICH PHARMACAL CO.	33,478	8,642	16,160	3,942	29,507	8,007	13,940	3,374
ALLIED LABORATORIES, INC.	31,296	12,028	10,871	3,612	22,636	8,654	8,455	2,598
G. D. SEARLE & CO.	30,597	8,502	7,756	6,923	28,179	7,355	6,683	6,583
PLOUGH, INC.	29,473	13,955	11,616	2,025	24,472	12,836	9,467	1,204
BAXTER LABORATORIES INC.	23,783	——	——	1,062	13,147	——	——	622
CUTTER LABORATORIES	16,185	9,067	5,903	534	13,731	8,408	4,846	188
NOXZEMA CHEMICAL CO.	9,956	——	——	561	9,114	——	——	637

American Home Products Corp.—The Ethical Drug Division gross sales were $172,000,000 in 1957, $150,000,000 in 1956; Packaged Drug and Cosmetic gross sales were $67,000,000 in 1957 and $54,000,000 in 1956. Ayerst Laboratories sales were at a new high and new products were Theruhistan, Erizactin and Estradurin. Wyeth sales were at a record level and new products were Zactirin and Polymagma.

Eli Lilly and Company—The company spent $13,200,000 on research and development, $13,227,000 to increase plant and facilities and introduced 19 new products in 1957. For the first quarter of 1958, sales were at $45,200,000, a decline of $11,300,000 from the same quarter of 1957, while profits declined by $4,900,000 to $6,400,000. Sales of polio vaccine were substantially less than in 1957 while demand for the Asian flu vaccine was very small.

Parke, Davis & Company issued 7 new products during 1957 and produced 25,000,000 cc. of the polio vaccine. For the first quarter of 1958, sales were up 12 per cent while profits were 25 per cent ahead of the same quarter in 1957.

Sterling Drug, Inc. domestic sales were $129,401,000 as against $115,769 in 1956. Medicinal preparations were $154,560,000, up from $138,778,000, industrial products were $22,008,000 compared with $21,864,000 and household and toilet articles sales were $22,135,000 as against $17,089,000 in 1956. Aspirin production was at capacity in the latter half of 1957 and Philips Milk of Magnesia sales were at a new record level. The new mint-flavored product accounts for 13 per cent of sales. New products include Bayer Nasal Spray, Neo-Synephrin Compound Cold Tablets and Aralen for rheumatoid arthritis.

Smith, Kline & French Laboratories research and development expense was $9,415,000 in 1957, $6,954,000 in 1956; new products were Darbid, Combid and Sul-Spantab.

Abbott Laboratories—The company is conducting research in anti-biotics, cancer, heart disease, circulatory diseases and diseases of the central nervous system. The research staff has been increased by 18 per cent and research expense has increased by 23 per cent to almost $5,000,000. For the first quarter of 1958, sales at $33,023,000 were 12.7 per cent ahead of the $29,311,000 in 1957; net profit in the periods increased from, $3,876,000 to $4,438,000.

Olin Mathieson Chemical Corporation sales in the first quarter of 1958 were down 6 per cent from 1957, but net income decreased by 55 per cent. Pharmaceuticals, drugs and household products accounted for 17.7 per cent of consolidated net sales in 1957, or $104,939,000. The Squibb division sales and profit were the highest in the history of the company. New products were Vesprin, Mysteclin V, Fungizone and Kenacort.

Warner-Lambert Pharmaceutical Company reported that Pacatal made a major contribution to pharmaceutical volume; largest gains in proprietaries were shown by Listerine Antiseptic and Super Anahist. For 1957 the domestic sales breakdown included Ethical Pharmaceuticals $28,904,000, Proprietaries $49,085,000, Drug Sundries $10,676,000, Toiletries and cosmetics $23,200,000, Plastics and Glass Containers $18,358,000.

Schering Corporation—Financial data include White Laboratories for both years. Meticorten remains the company's leading product. Domestic sales are 61 per cent of the total. White's domestic ethicals account for 10 per cent of the total, while proprietary sales are 8 per cent of the total.

Chas. Pfizer & Co., Inc. reported Pfizer Laboratories sales as 28.5 per cent of the total, Roerig as 6 per cent, chemical sales were 20 per cent, agricultural sales were 8 per cent, and Pfizer International accounted for 37 per cent.

COSMETICS
(In Thousands of Dollars)

	1957				1956			
	Net Sales	Cost of Goods	Sell., Adm. Exp.	Net Income	Net Sales	Cost of Goods	Sell., Adm. Exp.	Net Income
AVON PRODUCTS, INC.	100,380	37,810	43,698	9,343	86,826	32,642	37,937	8,127
REVLON, INC.	95,175	36,460	39,863	8,999	85,768	32,344	34,411	8,376
CHESEBROUGH-PONDS, INC.	55,496	21,135	29,267	3,112	51,504	19,828	25,818	3,039
MAX FACTOR, INC.	44,327	39,538		2,329	32,614	28,988		2,007
SHULTON, INC.	33,301	26,581		3,313	29,258	23,570		2,781
COTY, INC. (JUNE 30)	24,794	11,957	14,954	1,072 loss	24,101	11,653	11,879	493
WARNER-LAMBERT PHAR. CO.	23,200	—	—	—	22,200	—	—	—
HELENA RUBINSTEIN, INC. (JUNE 30)	22,830	20,469		1,192	23,251	20,584		1,205
HAZEL BISHOP, INC. (OCT. 31)	10,006	3,539	7,378	996 loss	10,271	3,471	7,985	610 loss
RAYETTE, INC.	9,430	—	—	172	9,269	—	—	289
NESTLE-LEMUR CO.	9,009	—	—	402	8,012	—	—	272
BOURJOIS, INC. (APRIL 30)	(7,125)	—	3,474	541	(6,000)	—	2,919	621
VICK CHEMICAL CO. (JUNE 30)	6,400	—	—	—	6,000	—	—	—
BYMART-TINTAIR, INC.	—	—	—	145	—	—	—	68

Avon Products, Inc. now has more than 100,000 sales representatives. The Morton Grove, Illinois plant has the same capacity as the Suffeen plant and went into full operation in August 1957. Net income after taxes was 9.3 per cent of sales in 1957, 9.4 per cent in 1956. From 1956 to 1957, sales increased by $13,554,000 while cost of goods and expenses increased by $10,929,000.

Revlon, Inc. purchased Knomark at a price $3,483,000 in excess of the underlying book value of the company. New products issued in 1957 include Aqua-Spray Mist, Intimate Spray Mist, Touch and Glow Pressed Powder, Waterproof Cream Mascara, Liquid Asset skin conditioner, Seven Wonders and Baby Silicare Powder. New Products for 1958 will be Revlon Living Curl, Clear-o-dan dandruff remover shampoo, Silicare Cream, Hi and Dri roll-on deodorant, Thin Down reducing aid, Fine and Handy liquid detergent and Top Brass Hair Dressing. Thayer Laboratories plans to introduce three new medical products and Femicin is now in test markets. Net income after taxes was 9.5 per cent of sales in 1957, 9.8 per cent in 1956. In the two years, gross sales increased by $9,407,000 while cost of goods, selling, general and administrative expenses increased by $9,567,000.

Chesebrough-Pond's, Inc. net sales increased by $3,992,000 from 1956 to 1957, but income from operations declined by $763,000. Net income was 5.6 per cent of sales in 1957, 5.9 per cent in 1956. With the termination of the 84 year old domestic agreement with Colgate, the company now distributes "Vaseline" products. Pertussin Cough Syrup sales were 50 per cent ahead of 1956. Valcream was introduced in the United States, Pond's Angel Touch in the United States, England, Canada and Holland. Pond's Clean & Sweet white lotion shampoo containing PVP was introduced in Australia and market tested in England. "Vaseline" Hair Tonic and Pond's Angel Skin were repackaged in 1957.

Max Factor, Inc. spent $1,440,000 to acquire, replace and modernize properties and equipment. New products in 1957 were Sof-Set Curl Control, "Cup of Youth", "Foot Light", Hi-Fi Creme Mascara, Sebb Shampoo, Pre-Electric Shave Lotion and three new lipstick shades. Operating profit increased by $1,164,000 as a result of a sales increase of $11,713,000. Net income was 5.3 per cent of sales in 1957 and 6.2 per cent in 1956.

Shulton, Inc. operating profit increased in 1957 by $1,032,000 while sales increased by $4,043,000. Net income was 10 per cent of sales in 1957, 9.5 per cent in 1956. There was no growth in sales or earnings of the Fine Chemical Division. Aer*A*Sol Division of Bridgeport Brass was bought early in 1958 for about $1,000,000 cash and will be part of the Fine Chemical Division. Women's fragrance and beauty lines continue to grow while Old Spice After Shave Lotion is first in its field. Thylox Medicated Shampoo sales were not as great as hoped for. The technical staff has been increased by 15 per cent and a number of new toiletries are to be test-marketed in 1958 and 1959.

Coty, Inc. loss on operations was $2,117,000 in 1957 as against a profit of $569,000 in the preceding year.

Warner-Lambert Pharmaceutical Company domestic sales of toiletries and cosmetics were 17.8 per cent of domestic sales in 1957, 19.6 per cent in 1956. Quick Home Permanent sales were lower but the 3 year decline in the home permanent market shows signs of reversal. Bliss, creme home permanent in a tube and Beauty Curl non-alcoholic hair spray were introduced. New products in 1957 included Seven Winds fragrance cosmetics, new Showcase lipsticks, Color-Glo home color rinse and the Deauville line of bath products. Merchandising of Ciro perfumes was revitalized, with sales exceeding previous records. Sales of Listerine Tooth Paste almost doubled.

Vick Chemical Company. During the year Polyderm was introduced, Matchabelli added cologne and aerosol spray cologne and dusting powder and bath oil were added to the Incanto line. Seaforth introduced new fragrances and redesigned packages.

Legally Acceptable Invention Records

BY GEORGE M. NAIMARK, PH.D.
WHITE LABORATORIES, INC., KENILWORTH, NEW JERSEY

Inventions which lead to patents are important corporate properties and a common goal of industrial research efforts. A recent report (1) by a Senate subcommittee dealing with the distribution of corporate patents dramatically illustrates the pharmaceutical industry's orientation towards, and interest in, attaining this form of protection for its discoveries. The following tabulation, based on the Senate study, provides an insight into the number and distribution of U. S. patents issued to pharmaceutical concerns.

COMPANY	Total Number of U.S. Patents issued 1939-1955
Merck (including Sharpe & Dohme: 116)	700
Hoffmann-LaRoche	366
Upjohn	344
Parke-Davis	341
Ciba	254
Lilly	230
Schering	197
Searle	178
Abbott	168
Squibb	164
Sterling Drug	153
Johnson & Johnson	79
Pfizer	79

Since patent acquisition is dependent in no small measure upon the maintenance of adequate invention records, it behooves research laboratories to review, evaluate and, when necessary, improve, this phase of their operation. However, before launching into a discussion on preferred technics for keeping legally acceptable invention records, a brief word on the approach to be followed here would not be amiss.

Legal machinery moves slowly and carefully to provide mechanisms for assuring that laws (and their underlying philosophies) are functional. In the case of legally acceptable invention records, the characteristics and requirements of acceptable records are the result of evolutionary developments which are logical *if* the basic legal reasoning is clearly understood. Therefore, in the discussion that follows, we will attempt to define clearly the principles governing the maintenance of legally adequate invention records so that the pertinent mechanics and operating procedures appear rational rather than arbitrary.

Laboratory records can and do serve so many important functions that further elaboration of these may seem to belabor the obvious. Nonetheless, since a regrettably large number of research workers are not motivated and encouraged to maintain adequate research records, let us consider several of the multiple purposes of such records. Records of research function as:

(1) *Fundamentally*, complete *records of* all *experimental observations.*
(2) *Records for preparing internal reports and scientific papers.*
(3) *A technic for minimizing duplication of research.*
(4) *A mechanism for research evaluation: the very act of attempting to set down an orderly research record serves to point up weaknesses and to suggest additional avenues of approach.*
(5) *Basic patent records.*

Although our prime interest here concerns the patent function, it is clear that research records that are adequate from a patent standpoint almost certainly satisfy most of the requirements of the other functions. Our discussion, then, is to be limited to research records as basic patent records.

Laboratory Notebooks

Basically, laboratory notebooks should be maintained in such a way as to provide maximum assurance that records are true records that are free of

modifications. The following technics are frequently used to aid in providing maximum evidentiary value.

Initially, it is desirable to provide a master system wherein numbered notebooks are assigned by one member of the research organization, preferably a notary public, so that the company has a record of each employee's laboratory notebooks, the dates upon which they were given to the individual, the dates upon which such books were completely filled, and the dates upon which such laboratory notebooks were forwarded to the patent counsel or others for evaluation. From time to time, the laboratory worker should appear before the notary and make proper oath as to the work reported in the notebook and the period of time involved.

Numbered bound notebooks, with numbered pages are generally used. Each notebook page carries the notebook number so that photocopies of pages are automatically identified. Entries are usually in ink or indelible pencil since these are difficult to alter. Blank spaces or pages are avoided, if inevitable, a line is drawn through the unused space and the date entered adjacent to the line. Entries are never erased, instead, unwanted material is crossed out, but not so as to destroy legibility. One or both sides of pages are used, but consistency is maintained. Pages are never removed from notebooks. If the notebook entry does not completely fill a page, it is dated, signed, and witnessed immediately beneath the entry, *not* at the bottom of the page.

Although the above approach to laboratory notebook record-keeping is common and commendable—having withstood the test of time—other technics can be used satisfactorily. For example, an electronics concern which ranked third highest among all corporations in patents issued in this country from 1939-1955 (with 7,894!) permits its engineers to use loose leaf sheets, rather than bound notebooks, which are collected at regular intervals and microfilmed (2). This film, of course, adequately fulfills the goal of providing an unmodifiable, chronologic record. (Parenthetically, photographic methods can be used in other ways to provide immutable records. For example, witnesses' signatures on the surface of a photostat or blueprint indicate quite convincingly that no change has occurred in the record subsequent to witnessing.)

What information should be included in laboratory notebooks? Research records should show when the work was started, what was done in detail, and what the results were. All observations should be recorded. Equipment and procedures should be carefully described or appropriate literature references included. Pertinent analytical and inspection data should not be omitted. Incidentally, such observations can be recorded on the same page upon which the original experimentation is documented. These additional data should be dated and initialed, of course. Generally speaking, a thorough, contemporaneous record should be kept. Notebook entries of experimental data, etc., should be made on a daily basis. It would also appear desirable to use a separate notebook for each major research project while reserving a separate book for miscellaneous projects and ideas. On the negative side, coined or trade names and abbreviations or codes should not be used without identification, to ensure freedom from ambiguity.

Disclosures

Disclosures are *inter*departmental communications which serve to bring the potential patentable invention to the attention of the patent counsel and the management of the company and which also serve to provide additional evidence in priority contests. A disclosure, as the name implies, should present enough information to permit a person skilled in the art to practice the invention. Most importantly, an ideal disclosure helps the patent counsel to become rapidly oriented with respect to subject matter, prior art, etc., to enable him to plan strategy and timing effectively. Generally, a disclosure should cover the following:

(1) *Broad description of the invention.*
(2) *The prior art and what was wrong with it.*
(3) *How the invention corrects it and why this solution was not obvious.*
(4) *Detailed description of the invention.*
(5) *Preferred (and alternate) embodiments of the invention with specific examples.*
(6) *All advantages of the invention over what has been done before.*
(7) *Clear description of the novelty, i.e., point out those features of the invention believed to be new.*
(8) *Pertinent notebook and other references to experimental work.*
(9) *Dates re important steps in completing invention including public disclosure or publication.*
(10) *An explanation of the principles of*

(Continued on page 666)

"The note book Joe! Drop your note book."

COURTESY CHEMICAL PROCESSING

CREATING FRAGRANCE APPEAL

BY J. R. ELLIOTT, PERFUME-FLAVOR CONSULTANT

A fragrance is not an academic project. It is a commercial product made to be sold directly (perfumes, colognes, powders etc.) or to help sell another product (cosmetic creams, lotions etc.). The question of whether it will be "good" or "bad" in the sense of sales success, constantly faces the perfumer. Each time he designs or recommends a new fragrance to his company, he puts his professional reputation at stake. His company can easily risk a quarter of a million dollars in basic promotion costs in the support of his decision. With this great responsibility in view, the individual perfumers have naturally tried to determine the characteristics that distinguish a "good" fragrance from a "bad" one.

It appears that there are ten factors which contribute to the success of a fragrance. If a group of the famous and successful perfumes are closely studied, it can be seen how carefully these ten factors have been considered in the design of all of them. The primary factor is a matter of decision in the selection of the basic fragrance type, from two general classifications. Another is related to its sexual (animal) nature. Four pertain to its esthetic aspects. The remaining four concern its practical performance.

Selection of The Basic Fragrance Type

Fragrances can be divided into two general groups: the "straight florals" and the "fantasies."

As the name implies a "straight floral" is designed to represent (and often named after) a specific, familiar flower. For example: Rose, Violet, Gardenia, Lavender etc.

In contrast, a fantasy is strictly a figment of creative imagination. It is not intended to represent or even recall any existing flower or fragrance situation. The fantasies comprise about 80 per cent of the fragrances that have achieved lasting, spectacular success.

A straight floral fragrance immediately invites an unfavorable critical comparison. Each individual has some sort of memory impression of the odor of the common flowers. It may be distorted and inaccurate, but nevertheless it is his personal impression and the standard he will always use for comparison.

Panel tests often show that a definite customer approval of a straight floral fragrance may run as low as 25 per cent with the remaining 75 per cent being indecisive or negative, because of the complication of the interfering comparison element. Promotional devices may temporarily sway a majority of this 75 per cent in favor. But, when their novelty wanes, the basic comparison influence revives, and the customer acceptance reverts to its original status.

A fantasy fragrance, by the imaginative nature of its design, can have no standard for comparison, and therefore cannot suffer from the handicap of critical comparison.

Panel tests frequently show that the initial customer acceptance of a fantasy design may run as high as 75 per cent, depending on the ingenuity of this design. With this kind of head start, and no critical comparison to constantly fight, it is quite understandable why fantasies as a group are so successful.

The straight floral group, on the debit side, has the shortest sales life, and the highest percentage of mediocrities and outright failures of the two classifications. On the credit side it usually responds the quickest to advertising pressure. The straight florals are generally most effective in the seasonal and "one-shot" sales promotions. For example: Muguet, Lilac and Violet for Spring and Easter colognes. Rose and Carnation for summer.

In contrast, the fantasy group usually enjoys a long and consistent sales life. Once a fantasy promotion has been successfully launched, it lasts until the customers physically tire of it, simply because there is no constant critical comparison present to undermine its appeal, as is the case with a straight floral.

Occasionally there are some fantasies that require a rather prolonged induction period before they respond to their advertising, and hit their stride in sales. This situation is reminiscent of a big ocean liner being maneuvered into her pier berth. The little tugs snort and puff about her as they strain to get her under way. But once the big ship starts moving, she doesn't stop until she is docked.

When the perfumer is required to produce a new fragrance, he must decide in which of these two

COURTESY FRAGRANCE FOUNDATION

groups he will work. The fantasy group is by far the safest "investment" in design, to assure sales success. However, circumstance may compel him to chose the straight floral group. In this case he should (1) Endeavor to obtain as high a material cost allowance for his work as possible, since he must incorporate every conceivable bit of "showmanship" and quality into his fragrance to counteract the "comparative-resistance" noted in the previous discussion. (2) Make certain that his sales-management recognizes the short sales life and specialized exploitation technique of this straight floral group, as a precautionary measure to protect himself. Failure to establish a mutual understanding of these points is a frequent cause for criticism of the perfumer by his management for his efforts in this straight floral group.

The "sex" of a fragrance should conform with that of its wearer. If it does not, the resultant clash can practically nullify the attractiveness.

For example: A woman's fragrance should be definitely feminine, with all the perfumery equivalent of "lace and frills" coupled with the subtle use of the animal notes (musk, civet etc.) having a known sex attraction to the male. A man's perfume should reflect masculinity in its vigor (aldehydes), clear freshness (citrus notes) or its association with masculine sports or customs (leather, tobacco, forest etc.). In a masculine fragrance a discreet use of the animal product of Castoreum will usually produce the touch of sex appeal equivalent to the animal notes indicated above for a feminine perfume.

Even to the most untrained observer it is quite apparent that a woman's perfume is not suitable for a man to use, nor a masculine fragrance suitable to a woman. Yet it is amazing to see how many times this obvious rule of compatibility is violated.

One has only to recall the number of mediocre and unsuccessful men's colognes and shave lotions that have been put on the market in recent years, for examples. Most of these products apparently tried to create a forest theme, but succeeded only in producing a sweet, green effect, distantly reminiscent of the classic woman's perfume "Chypre." They all had a too-feminine character—too much floweriness, sweetness or muskiness.

For further examples, one has only to look at the flagrant "modern" fragrances that have been offered from time to time for so-called sophisticated women. Many of the fragrances have been atrocious combinations of leathery notes and pungent aldehydes more suggestive of a man's well worn hunting jacket, than a lady's boudoir.

It is puzzling as to why perfumers and their sales executives continue to fall into this obvious pitfall of the incompatibility of their fragrance with the sex of its potential users. Yet the fact is that they do.

(*Continued on page 686*)

FINAL APMA MEETING

The American Pharmaceutical Manufacturers Association, at its 51st annual meeting held at Boca Raton, Fla., last month, voted to discontinue its existence, and for its members to become associated with the newly formed Pharmaceutical Manufacturers Association. This action is subject to similar action expected to be taken by the American Drug Manufacturers Association at its annual meeting at White Sulphur Springs, W. Va., May 26-29.

William B. Graham, president of Baxter Laboratories, Chicago, moved from the office of president elect to president to succeed Francis C. Brown, president of Schering Corporation, for the short period of time the association will exist. Except for the office of president elect, all other officers were reelected. They are Eastern vice-president, Allan J. Greene, Brooklyn, N. Y.; Central vice-president, Nelson M. Gampfer, Cincinnati; Western vice-president, Dr. Paul W. Spikard, Los Angeles; executive vice-president, Dr. J. O'Neill Closs, New York; treasurer, S. B. Penick Jr., New York.

With regard to the dissolution of the association, retiring president Brown said:

"In no sense should this terminal aspect of our association shadow these sessions with the sadness of parting. Rather that we should accept this as a felicitous occasion, for it marks the dawn of a new era, bright with stirring challenges and, consequently, enlarged opportunities. As an industry, we face momentous tasks and difficult problems; we shall master these in the future under our new banner, as we have in the past under the old, because we have the particular capacity to cope with change. We must accept the inevitable tolls of progress and be prepared to accept them as such."

Although the government spent $211 million in 1957 alone on medical and scientific research through its National Institutes of Health, private industry continues to provide the essential drugs of today, said Mr. Brown in his presidential address. Pointing out that the pharmaceutical industry's own expenditures for research last year exceeded $130 million and that from this and earlier private research had come all principal pharmaceutical advances in recent years, Mr. Brown cited the following examples: The important sex hormones, many of the important vitamins (such as vitamin A, the anti-anemia factor B_{12}, folic acid), the sulfonamides, the broad spectrum antibiotics, the antihistaminics, the anticholinergics, the cortical steroids, the tranquilizers, the reserpines, the mood elevators and psychic energizers, the so-called "oral insulin," the diuretics, the antitubercular isoniazid, and "finally our universal analgesic, aspirin—all were discovered or synthesized and produced under processes developed by research workers of the pharmaceutical industry of the United States or other countries; none of these drugs came from government laboratories."

"The House Appropriations Committee has this year proposed larger appropriations than the National Institutes of Health asked for, and by control over the purse strings, Congress is giving 'marching orders' to these government agencies as to how their research should be conducted," continued Mr. Brown, who added:

"The stepped-up appropriation for a 'more aggressive' psycho-pharmacology program seems pointed in the direction of forcing another service center 'crash program' involving synthesis of new compounds and screening for activity similar to the cancer crash program. There is a definite prospect that this pattern will spread to heart and other medical fields as well. Industry support is certain to be solicited and will, of course, be given. Although our industry has a fine record of discovering, producing, and distributing a whole range of useful drugs in all of these areas, government administrators—acting under fear of possible Congressional criticism—will again be faced with the problem of whether or not to require 'march in' rights or compulsory licensing of patents taken out on pharmaceutical compounds which may be discovered.

"These developments are problems not only for the pharmaceutical industry. Government must take care that in seeking to heal the bodies and minds and to prolong the lives of its citizens, it utilizes means which will protect our way of life from political infections, so that the better health we seek will be worth while."

The proper role for government research is sup-

Francis C. Brown, left, president of Schering Corporation, and William B. Graham, president of Baxter Laboratories, who succeeds Mr. Brown as president of the APMA and will serve until July 1 when it will merge with the ADMA.

port for research in the basic sciences both in government laboratories and in private institutions, Mr. Brown said, adding:

"Government financed crash programs to find drugs for a disease before its nature and cause have been determined, diverts scientists from basic studies and may actually delay the solution of the problem. If government diverts from basic research, who will carry on the urgently needed fundamental studies?"

"The whole record of our industry has been one of abundant production and intense competition to sell its products," he asserted. "There has been extensive licensing within the industry and no barriers to progress in the form of patents exist within our industry. Any program of compulsory licensing of patents is essentially destructive of our patent system, and the patent system is historically the greatest incentive to discovery and invention."

Implied warranties, as illustrated in the Cutter Laboratories case in which the company was successfully sued for damages from Salk polio vaccine even no negligence was found, was discussed by Wallace E. Sedgewick, partner in a San Francisco law firm, who cited the case as an example of a special and unique set of rules applicable only to the food and drug industries, but not to manufacturers of other products. "It seems essentially unfair to single out your industry (and food processors) for special treatment," he said.

Mr. Sedgewick quoted the U. S. Public Health Service as recognizing the risk involved in the introduction of new treatment and pharmaceuticals. Said USPHS:

"Throughout the history of medicine and public health most advances have been made step by step, with each new and unforeseen obstacle overcome as it is encountered. This has always involved a certain amount of risk, trial and error, discovery of new knowledge in production and clinical use, and resumption of forward movement. As in all scientific and medical endeavor we must weigh potential benefits against possible hazards."

A side effect of the Cutter case, said Mr. Sedgewick, is that pharmaceutical manufacturers are being viewed askance by insurance companies. "Top insurance executives are already concerned about this type of risk and one has expressed doubt to me personally that his company can continue to insure pharmaceutical manufacturers if a threat toward absolute warranty liability develops, thus making the extent of the risk unpredictable. Many substantial underwriters have placed serious restrictions upon the writing of certain classes of product liability insurances," he said. (*Continued on page 689*)

THE CLOVE OILS

BY STEFFEN ARCTANDER, PERFUMER, COLGATE-PALMOLIVE CO.

Discharging of the stills in Zanzibar. Exhaust stems.

Vanillin at $500.—per lb. Think of it. It is only 80 years ago.

It all began rather peacefully, when in 1511 the Portuguese explorers (it seems, that the perfume industry owes a lot of credit to these people!) found the Moluccas, island group in the Indonesia of our days. The clever Portuguese policy was not to conquer, but to establish trade places. Those, who suffered most by the new invasion, were the Arabs and the Chinese, who had held the trade in spices from these islands since centuries before Christ. Cloves and nutmegs remained for 100 years a Portuguese monopoly, but after a Portuguese defeat in the Moluccas, the Dutch East Indian Company declared that the Moluccas produced more spice than could be sold with profit. After an "agreement" with a local Sultan, the Dutch were "permitted" to extinct all spice trees from the islands, except cloves in Amboina, and nutmeg in Banda. This was more than the islanders could swallow. But during the rebellion that followed, the entire population of the Banda islands were slaughtered by the Dutch. Furthermore, the conquerers imported people from other islands (Java, Makassar etc.) to inhabit the unfortunate Moluccas and weaken the larger islands. The Dutch policy and the unhealthy cutdown on cultivation of export articles such as spices, coffee, etc., lead to an economical failure, and their total defeat on the spice market was evident when, during the first half of the 19th century, rich plantations of cloves flourished in Reunion and Zanzibar after a venturous theft of clove and nutmeg seedlings from the Moluccas.

Cloves in full bloom, too late for picking. Will produce "mother of cloves" (fruits). Madagascar (Soanierana-Ivongo).

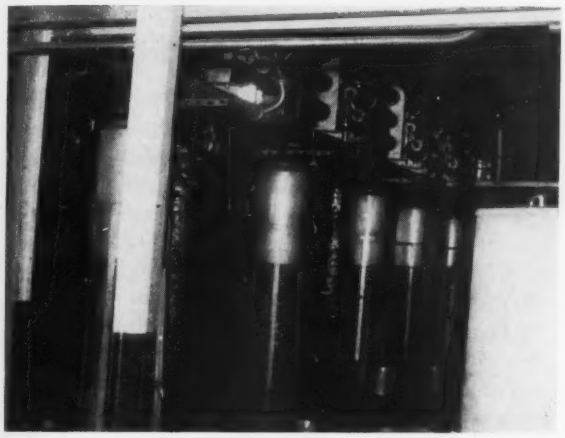
It was the French botanist, engineer, explorer and Governor of the Mascarenes, Pierre Poivre who, during a "visit" to the Moluccas, literally stole seedlings of clove, nutmeg and other spices, and succeeded in bringing these plants alive to Mauritius and Reunion in 1772. The event brings to mind the English adventurer who brought Hevea (rubber) seeds from Brazil to Malaya. Poivre's spice theft happened to become the turning-point in clove history. The world center of clove production has since become more and more firmly established in the areas along the East African Coast.

Freshly picked, pink Clove buds on stems. Zanzibar.

Now, cloves have built such a history for them-

selves that this alone would take a book to describe. We shall confine this report to a summary on clove oils, which have a shorter and much less romantic history, although more interesting for the perfume industry. Unable to state when exactly the first clove oil was produced, I can say, that the oil must be close to its 100th anniversary. Eugenol was isolated from clove bud oil in 1876, but cheaper starting materials are now used for the isolation of eugenol, e. g. clove leaf oil, cinnamon leaf oil, etc.

Clove buds being sun-dried among Clove trees and Coconut palms, Zanzibar. Zebu-oxchart in the background.



A view in the dark interior of the still room. The almost horizontal multiple tube condensers are seen above. CGA.

The "pink" stage, the proper moment for picking. Madagascar.

By keeping up a tight schedule during a recent visit to the producing areas, I was able to study the harvesting of cloves in Zanzibar in November, in Madagascar in December, thus covering about 98 per cent of the world's producing areas, As far as clove oil production is concerned, the two islands have quite different things to show a perfumer: In Zanzibar, a pure clove stem oil, produced on European-type, modern stills in one large distillery, while in Madagascar, hundreds of native-operated, primitive stills produced an oil, mainly from leaves, occasionally with stems admixed.

The production of clove oils is another example of a production of a comparatively large amount of an important perfumery raw material within a surprisingly small area. Bergamot is another, and to mention a few which have been kicked out of business after a short period of inavailability: Cassia and star anise. The entire area of clove production in Madagascar is little more than 120 square miles, while in Zanzibar fewer trees grow a little more widespread. Pemba, the smaller northern island, is planted almost exclusively with clove trees and coconut palms.

Leaving my car on the African mainland, I landed in Zanzibar in a small plane after a comfortable 20-min. flight. The island looked like a dark-green emerald in the luminous blue, Indian Ocean. And the week in Zanzibar was no less romantic. For a short introduction, Zanzibar is a Sultanate, comprising the islands of Zanzibar and Pemba, a number of smaller islands, and a narrow strip on the African continent, all under British Protectorate. The 78-year old Sultan is like a father to his 300,000 citizens and will celebrate his half-century reign next year. His Highness the Sultan is the head "par excellence" among the three potentials of Zanzibar: the two being The British Governor and The Clove Growers' Association. The latter forms the economy of the islands. Zanzibar exports some $15 million worth of clove buds per year, and another million worth of clove stem oil. Coconuts and copra come second in value, first in tonnage.

The production of cloves, the cultivation of the trees and the socio-economic problems connected herewith, have been comprehensively described e.g. in Guenther's "The Essential Oils and supplementary reports. In the following, we shall concentrate upon the various perfume oils, produced from cloves, buds, stems and leaves. Clove bud oil was distilled in Europe from imported Zanzibar buds, long before any distillation of clove buds was carried out in the habitat of the tree. Like a few other spices, cloves distinguish themselves through a very high content of essential

(*Continued on page 690*)

Expectations in Cancer Chemotherapy*

BY ROBERT D. COGHILL

CANCER CHEMOTHERAPY NATIONAL SERVICE CENTER, NATIONAL CANCER INSTITUTE, NATIONAL INSTITUTE OF HEALTH

Before discussing the area of chemotherapy, first let us dwell for a moment on the question "what is cancer?" One would not be far wrong in saying that "cancer" is a collective term referring to several hundred different diseases which result from a variety of etiological factors. These diseases all have one common feature or characteristic—the unregulated proliferation of cells. These cells which have gone "hog-wild" with respect to reproducing themselves, frequently invade surrounding tissue and are referred to as malignant.

To say that a person has cancer is being no more specific than to say he has an infection. (By this I do not mean to imply that cancer is necessarily an infection.) Different drugs and different treatments are used for each infection, and what is effective therapy for one would frequently be worthless or nearly so for the rest of them. In other words, there are cures—and good ones—for may kinds of infections, but there is no such thing as a single infection cure.

By the same token, one approach being used is based on the premise that the diseases known as cancer may be cured with a multiplicity of drugs, each of which may be effective against a specific type or types of cancer. This, in a way, seems to magnify our problem. But, in a way, it also simplifies it. We can take steps forward and count our successes as we go, after we fully realize that a good cancer drug should not be expected to cure all cancers.

Today our big problem in finding effective chemotherapeutic agents is that we have little basis for a rational approach because not enough is known about the nature of cancer and the agents that restrain it. We will find some of the knowledge we need to put the search for agents on a rational basis by discovering answers to two fundamental questions: What are the exploitable biochemical differences between malignant and normal cells; and what is the etiology of the group of diseases known as cancer?

Many minor biochemical differences have been found between normal and malignant cells, but few of them are exploitable in a rational search for effective drugs. None seem to be fundamental differences, but rather seem to be the *results* of some *unknown* basic change within the cell which has caused the cell to become malignant.

If one wishes to oversimplify the problem he can postulate that this basic change in the cell is either

1) An added "something" which the cell didn't have before, or
2) The lack of "something" which formerly regulated its growth.

Searching for remedies, one would look, in the first case, for a chemical which would inhibit or neutralize the added "something". In the second case, one might look for some naturally occurring substance which, when supplied to the cell, would return its activity into normal channels. Possibly the reason we haven't yet solved this problem is that in some cancerous diseases it is one of these situations, in some cases the other.

Another theory of the nature of malignancy is that of virus etiology. There are some who feel that there is a virus behind every case of cancer. Others, however, think that whereas some malignancies are of undoubted viral etiology (the Rous chicken sarcoma for instance), most cancers are caused by other etiological factors. The problem must also be regarded as unsolved, but it is obviously important in developing a treatment.

I have referred briefly to the questions of biochemical considerations and etiology simply to emphasize that we have very little in the way of a foundation for a rational approach to the problem of cancer chemotherapy. We are virtually forced to rely almost entirely on the empirical screening of thousands of compounds in the hope that some of them will destroy or modify cancers.

But the magnitude of the problem we face in this respect is only exceeded by that of the physician who must attempt to treat an ever increasing number of cancer cases. It was with this in mind that the Cancer Chemotherapy National Service Center of the

*Before Central Section, A.P.H.A., Feb. 10, 1958.

National Cancer Institute was created in 1954 at the behest of Congress, which has poured an ever increasing amount of funds into the program. This year we have a budget of approximately 25 million dollars.

You are undoubtedly interested in what we are buying with this money, inasmuch as we have no experiments or laboratories of our own. More than 12 million dollars is going into grants for fundamental research carried out in our leading universities and research institutions. Of greatest interest from the chemotherapy standpoint, are the hundreds of studies on the biological, biochemical, and biophysical aspects of the growth process. Grant-supported research problems are proposed to us by the responsible investigators who will conduct the studies.

This phase of the Cancer Chemotherapy National Service Center program is administered by the Research Grants Division of the National Institutes of Health through its well-known mechanisms. I feel that these studies on basic research represent a strong feature of our program, for it is placing half of our funds into a study of the disease and the biological problems which play a part in it so that a rational approach to chemotherapy can be evolved. Also, supporting research by independent investigators prevents the cancer chemotherapy program from being directed into too narrow a channel by two few people.

Closely associated with the Research Grants program is a $700,000 Training Grants program under which able investigators are encouraged to receive training at our leading institutions in the field of cancer research.

The remainder of some $12 million is devoted to the administration of the Center (about $500,000) and to a direct search for new chemotherapeutic agents. This largely empirical search involves screening materials against animal tumors, pharmacological and clinical studies on promising agents, and evaluation of end results. About half of the work is being done under contracts with the pharmaceutical industry and the other half under contracts with non-profit research laboratories, research institutions, and universities.

There are three major sources of the 40,000 materials screened annually through this program: 1) the off-the-shelf selection of chemicals from educational institutions, research organizations, and manufacturing concerns; 2) active programs of synthesis based on existing leads arising from compounds that have shown activity, and 3) "beers" from antibiotic screening programs. Such programs of active synthesis have been in operation in several pharmaceutical houses or have been supported in other institutions by grants-in-aid or by contracts.

Materials are screened in one of eight screening laboratories under contract to the Service Center, or under "in-plant" screening facilities in several pharmaceutical companies, also under contract.

Tumor screens used are the solid subcutaneous forms of Sarcoma 180 and adenocarcinoma 755, and the ascitic form of leukemia L1210. Compounds are screened at the maximum-tolerated dose and are considered potentially active when they meet certain minimum standards of activity in three consecutive tests on the same tumor at the same dose. They may be rejected as inactive at any stage.

As you all know, the screening problem is highly complex. Each type of tumor in animals shows its own range of sensitivities to a series of drugs because of its physiological and biochemical makeup. In addition, the same type of tumor in different species varies in its sensitvity to a particular chemotherapeutic agent. For these reasons, we cannot predict which, if any, human cancer will respond to a chemical that is highly active against a particular animal tumor. (*Continued on page 679*)

COURTESY MERCK SHARP & DOHME

ENCAPSULATING AT UPJOHN

Where the suspending vehicle or solvent can be oil, soft gelatin capsules provide a convenient and highly acceptable dosage form.

Selected gelatin in flakes is rotated with glycerin, water and color until swelling is completed and the batch is then transferred to aging tanks (1). At the proper temperature, after from 60 to 72 hours, the gelatin is suitable for use (2).

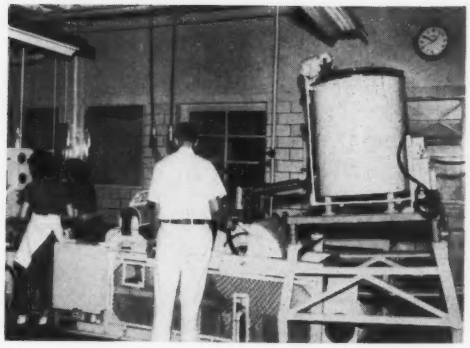
Gelatin is fed from an aging tank into the leaf casting machine. This forms a ribbon of regulated thickness, cooled to the proper temperature (3). The ribbon is cut into sheets of the proper size and conveyed to the capsulating machines (4). The hydraulic press has two lower plate molds to permit two operators to use the same upper plate mold in the center of the machine (5) (6). The operator spreads one-half of the sheet over the lower plate mold, vacuum pulling the gelatin into the molds (7, 8). The liquid fill is metered into each cavity (9) and the other half of the gelatin sheet is folded over the lower plate as a cover (10). The upper plate is dropped into place and the assembly pushed into the press. The capsules are formed, sealed and cut from the sheets (11). Separation of the mold permits removal of excess gelatin and capsules are left in the lower plate (12). Capsules are brushed out of the mold into a trough and are carried to a rotating cylindrical screen (13) in a stream of light oil. Capsules that are too large or too small are separated; capsules are washed several times in volatile solvent (14, 15) and dried in ovens at low humidity (16) where the capsules shrink and harden. Capsules are inspected under ultra-violet light, in which leakers show a special fluorescence (17) and also produce grease spots on paper (18).

Control is of paramount importance and in this case starts with gelatin. This not only must meet U.S.P. standards but also fulfil certain physical requirements. Bulk vitamins are analyzed individually and the mixture before encapsulation is also assayed. Every 30 minutes, a number of capsules are checked for weight. During manufacture, screening maintains size classification and inspection in white and ultra-violet light removes leakers and foreign materials.

Bottles for capsules are inspected through large magnifying lenses before they reach the filling machines; the counting and filling operations are supervised by the operator to assure complete fill. Control samples are inspected as a further check on the count.

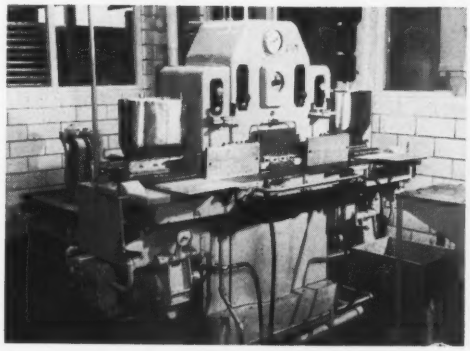
1

2



3

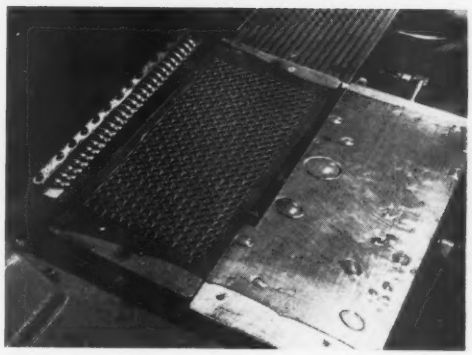
4



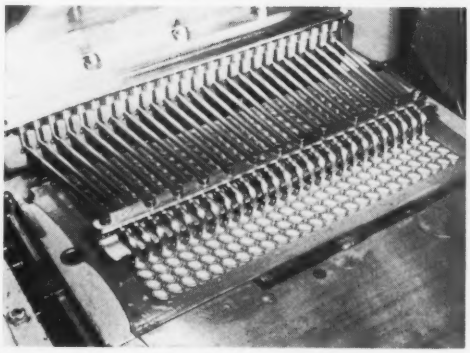
5

6

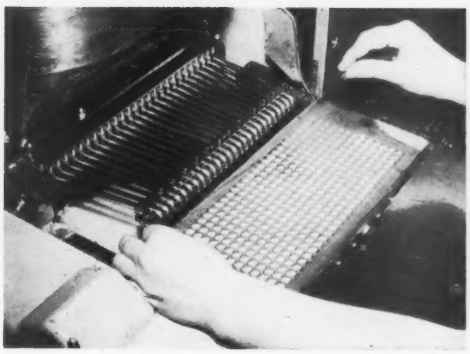
7



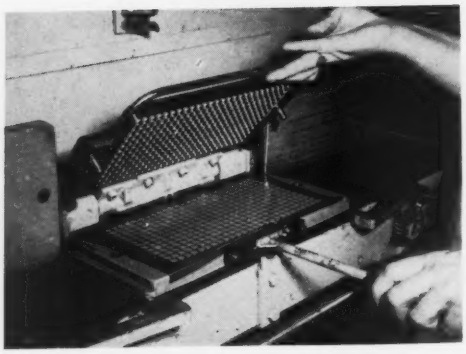
8



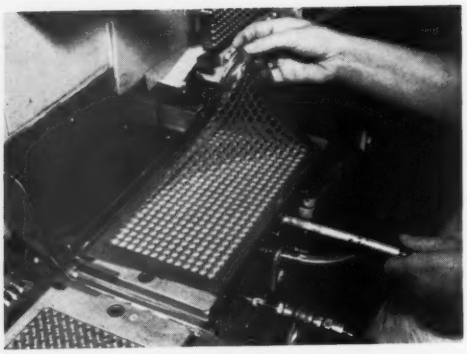
9



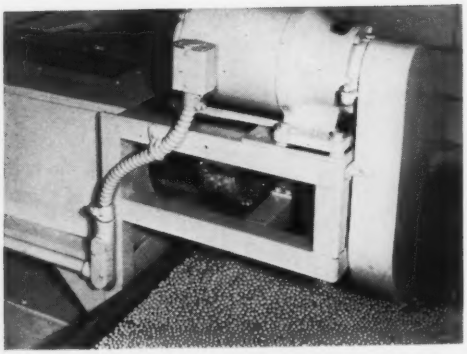
10



11



12



13

14

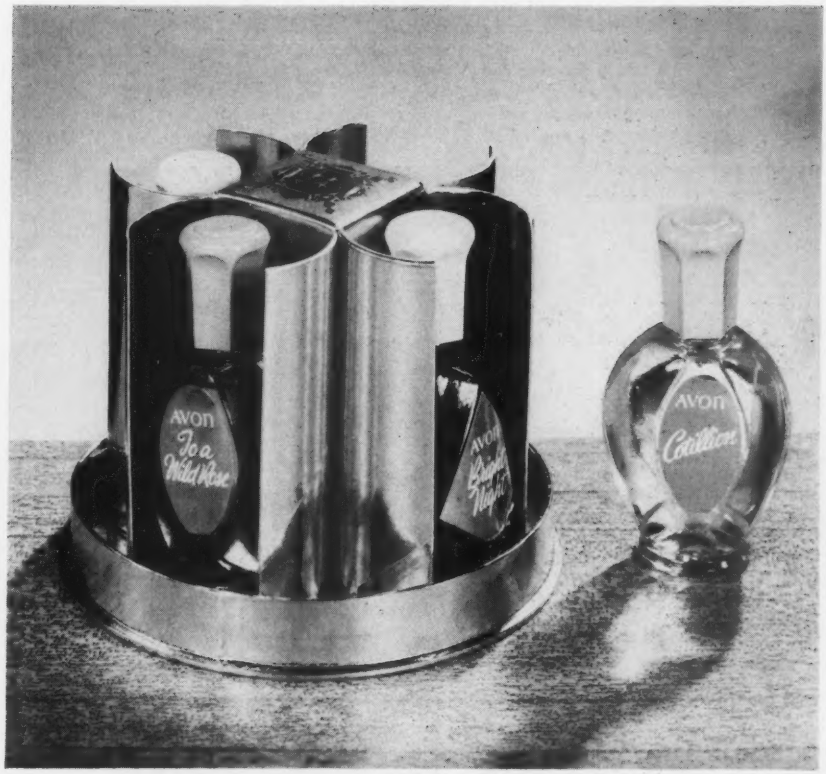
15

16

17

18

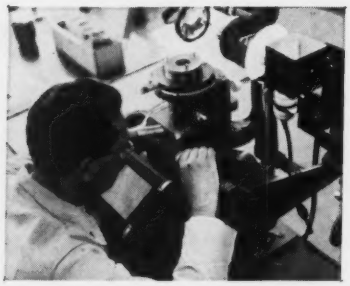
Packaging and Selling



Avon's "Gems in Crystal"

won first award in the round and oval cosmetic boxes category of the 1958 Set-up Paper Box Competition, sponsored by the National Paper Box Manufacturers Association. (Other award-winning boxes are shown on pages 615 and 617.) Highlighting the transparency of four bottles of perfume, Avon's multi-color, foil-covered package has four partial cylinders on an oval tray. A slotted foil insert secures the cylinders but is not glued so that the purchaser may use the individual bottles as gifts, prizes or favors.

Owens-Illinois Assures You A Complete Packaging Approach



Co-ordinated Research

Pure research into fabrication of glass, *packaging research* into processing and handling methods in customer plants, *market research* into consumer attitudes. All add up to greater packaging value.

Engineered Design

At Owens-Illinois, your package's *three* needs are taken into account: 1) Considerations of its function in the retail store, 2) its operating efficiency, and 3) its consumer utility.

The Right Container

Versatility of facilities and talents make O-I your best source of supply. In container development—beauty, utility, tradition are blended in the right proportions for your product's needs.

The Right Closure

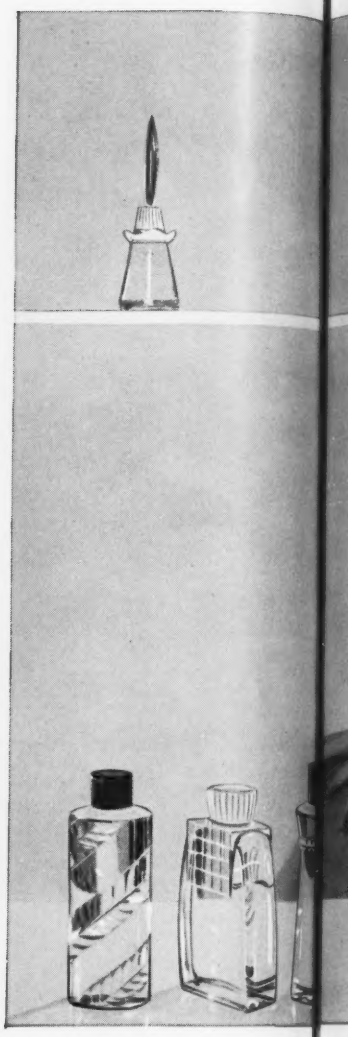
Through long and continuing research O-I has developed the most advanced metal and plastic closures. Helping you choose the right closure is another function of O-I's packaging service.

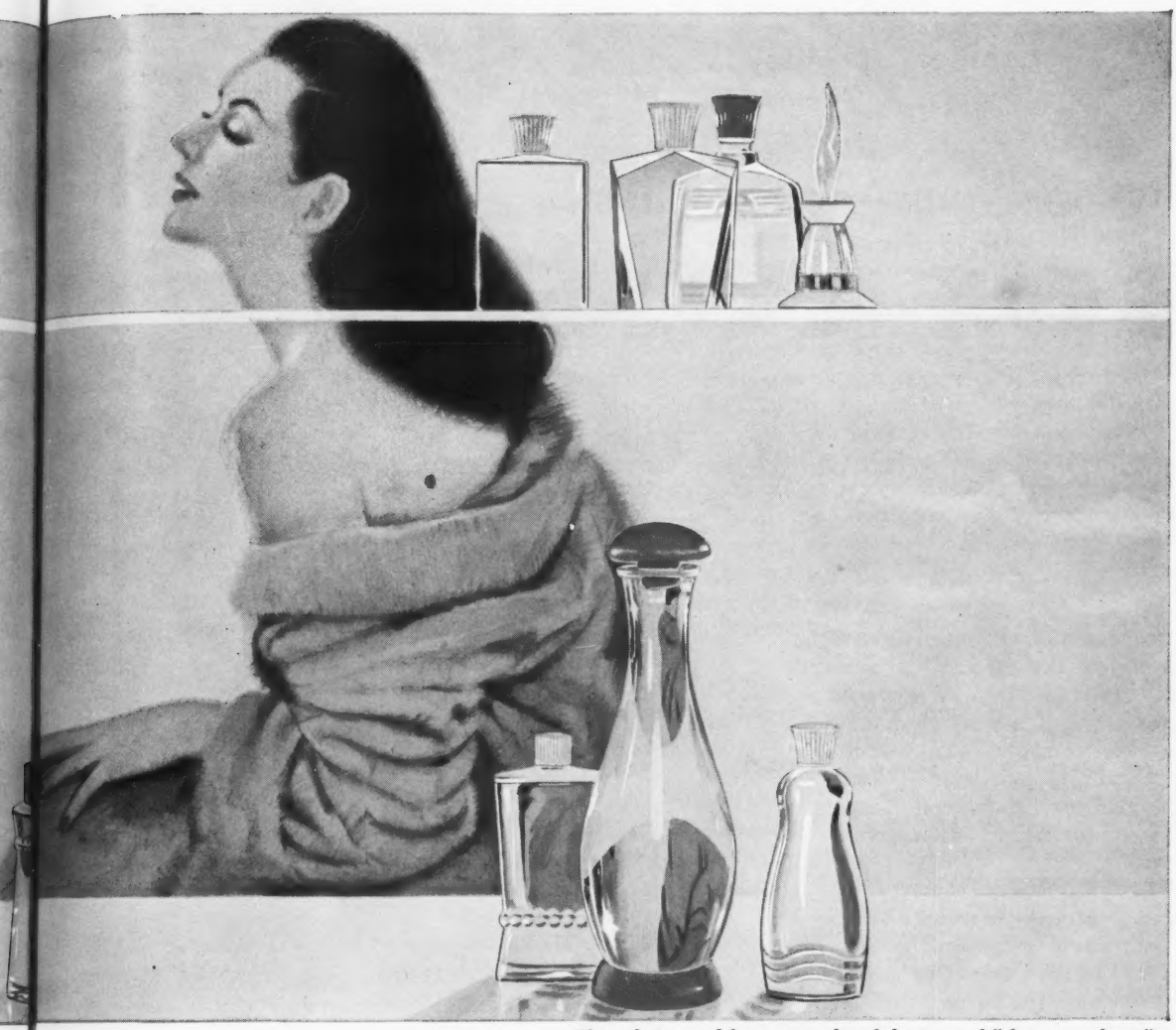
Needed Fitments

O-I specialists are keenly aware of sales benefits derived from plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.

Merchandising Cartons

Modern cartons such as the new "Openized Carton" with easy-open flaps are developed from study of their service to you in retail store and warehouse . . . on filling line or in transit.





These design models are examples of the types of "glamour packages" available through Owens-Illinois custom-design service.

Your products for glamour should be packaged in glamour

Striking and exciting packaging for toiletry products pleases every woman... is a factor in her personal selection. On dressing table or any shelf the package adds a touch of elegance... serves as a constant reminder of a product's quality.

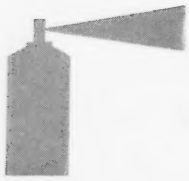
Owens-Illinois' designers and packaging experts are ready to work with you to provide a distinctive, personal container for your toiletry preparations. The right container requires eye-appealing form, of course ... plus ease of handling in the filling line, lasting product protection and ease of use in the home.

O-I's Complete Packaging Approach offers more than the container alone... it provides artistic label design, the needed fitments, most suitable closures, and protective, merchandising cartons.

Call on Owens-Illinois for the complete salespackage to take your product into your customers' homes.

DURAGLAS CONTAINERS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO



To "pretty up" your cosmetic profits . . .

Package your Aerosol with

ISOTRON®

The Key to Modern Living

There's strong feminine appeal in cosmetics packaged the no-fuss, no-muss aerosol way. Products that have gained new success through aerosol packaging with ISOTRON propellents include colognes, perfumes, hair sprays, hand lotions, deodorants, shampoos, soaps, depilatories, suntan lotions and fingernail polish dryers.

Personalized technical assistance from Pennsalt can simplify aerosol development of your cosmetic line. Our laboratory can determine the correct pressure and spray pattern, test for stability and other important characteristics, and check performance with a trial loading. Our *complete* line of ISOTRONS enables you to get the exact propellent for your formula. And ISOTRONS are nonirritating, noncorrosive, stable even in alcoholic solution.

To get started on your new aerosol, call or write Pennsalt today. And for expert production, contact one of these leading contract fillers.

Pennsalt Chemicals
ESTABLISHED 1850

ISOTRON Department 636

PENNSALT CHEMICALS CORPORATION

Three Penn Center, Philadelphia 2, Pa.

Aerosol Loaders Specializing in Cosmetic Products

Aeropak, Inc.
Chicago, Ill.
Aerosol Corp. of the South
Arlington, Tenn.
Aerosol Industries Div. Zenith Drug
Newark, N. J.
Aerosol Techniques, Inc.
Bridgeport, Conn.
Allied Professional Associates Ltd.
Buffalo, N. Y.
A-M-R Chemical Co. Inc.
Brooklyn, N. Y.
Armstrong Laboratories
Boston, Mass.
Associated Brands Inc.
Brooklyn, N. Y.
G. Barr & Co.
Chicago; N. Y.; Los Angeles
Capitol Packaging Co.
Forest Park, Ill.
Claire Mfg. Co.
Ft. Lauderdale, Fla.
Connecticut Chemical Research Corp.
Bridgeport, Conn.
Continental Filling Corporation
Danville, Ill.
Fluid Chemical Co.
Newark, N. J.
Gard Industries Inc.
Northfield, Ill.
Jet-Aer Inc.
Paterson, N. J.
La Maur, Inc.
Minneapolis, Minn.
National Spray Can Filling Corp.
Brooklyn, N. Y.
Old Empire, Inc.
Newark, N. J.
Peterson Filling & Packaging Co.
Danville, Ill.
Powr-Pak Inc.
Bridgeport, Conn.
Pressure Products Co.
West Chester, Pa.
Puritan Distributors Co.
Boston, Mass.
Regal Chemical Corp.
Brooklyn, N. Y.
Eugene Rose Company
Chicago, Ill.
Southeast Packaging Co.
St. Petersburg, Fla.
John C. Stalfort & Sons
Baltimore, Maryland
Strobel Products Co.
Louisville, Ky.
Sun-Lac Inc.
Newark, N. J.
Texas Aerosols, Inc.
Houston, Texas
Thomasson of Pa., Inc.
Norristown, Pa.
Wellston Aerosol Mfg. Co.
Wellston, Ohio
Western Filling Corp.
Los Angeles, Calif.

HIDDEN PERSUASION
Fact or Fancy?

BY JOSEPH SPAULDING

Angered by the jibes of their detractors, the no-longer-hidden persuaders are beating the war drums so ferociously that advertising and sales promotion executives may be unable to hear themselves think. Still, perhaps there is no need for them to think, judging by some of the astounding claims that have been made for motivational research and the even more 1984-ish subliminal advertising.

Failure of the Edsel to gain consumer acceptance has given foes of motivational research their biggest weapon in the ten years since depth interviewing was introduced. They are not satisfied with admissions that motivational research is a supplement to and not a substitute for the nose-counting methods of quantitative research. Case histories offered as evidence of the effectiveness of motivational research are discounted by critics as being anecdotal and lacking in proof.

Subliminal advertising is also under fire. Whether or not the "Coca Cola" and "Eat popcorn" messages, flashed at 1/3000th of a second on the screen during a motion picture showing last October, made the viewers thirsty or hungry, they did make many people angry. Public indignation and the threat of restrictive legislation, together with subliminal advertising's inherently limited applicability, would appear to hamper its use as a sales-creating device. However, it is when isolated from the social and political forces affecting it and studied simply as a promotional tool that subliminal advertising is put to the acid test.

"To those of us who are in the pharmaceutical field, this type of thinking (subliminal stimulation) smacks of the reasoning behind the now defunct homeopathic movement." So declared August A. Fink Jr., Ph.D., market research director for the pharmaceutical advertising agency, Paul Klemtner & Company, Newark, at the May 2 session of the national convention of the Sales Promotion Executives Association.

A subliminal (below the conscious level) stimulus is nothing more than a weak supraliminal (above the conscious level) stimulus, Dr. Fink reasons. In short, it is a diluted stimulus. Similarly, homeopathic remedies were administered in unbelievably small doses. Compounds were frequently diluted to one decillionth of a grain in the belief that the more minute the dose, the more potent.

Stressing that subliminal stimulation is a real phenomenon and as such could conceivably solve a present or future promotional problem, Dr. Fink added that he could not think what type of problem would yield more easily to subliminal stimulation than to other marketing tools.

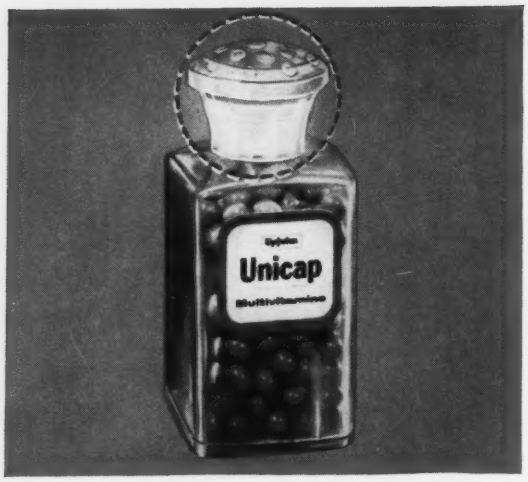
The concept of advertising and promotion as motivators is erroneous, according to Dr. Fink. Their function is to persuade an already motivated person to buy a particular product.

"In the jargon of the behavioral psychology," he said, "motivation or drive is the result of operations such as deprivation. Thirst, for example, refers to the state of a person who has been deprived of liquid. Motivating operations are, by and large, beyond the control of the marketer. The Pepsi Cola Company cannot effectively stop you or me from drinking water; the Coco Cola Company cannot make us thirsty."

Dr. Fink maintains that a weak stimulus is less likely to trigger or direct behavior than a strong one. Since subliminal stimulation is nothing more than a weak stimulus, it is far less effective as a form of promotion than a strong clear stimulus presentation.

Questioning whether or not advertising and promotion "can remain obligated to test each new skeleton drawn from psychologists academic and clinical closets," Dr. Fink expresses the belief that there is a move toward "a period of rational promotion—where agencies and companies will stop collecting secondhand techniques and start to develop techniques based on specific needs and goals; where promotion and advertising will be given specific assignments rather than vague commands to increase sales; where promotion and advertising efforts will not be judged as over-all successes or failures, but where each link in the promotion or advertising chain will be evaluated separately."

Dr. August A. Fink Jr.



"CEL-O-SEAL" BANDS HELP SOLVE UNUSUAL PACKAGING PROBLEMS

Here's a striking example of how the unique properties of Du Pont "Cel-O-Seal" cellulose bands can help solve unusual packaging problems.

When the Upjohn Company decided to market its "Unicap" vitamin capsules in a distinctive apothecary jar, it faced the problem of protecting the contents and keeping the stopper securely in place without changing the appearance of the container.

A transparent "Cel-O-Seal" band provided the solution. Applied wet, the neckband shrinks on the bottle neck to provide a seal while overlapping part of the top of the stopper to hold it securely in place. The sealed package enables Upjohn to safeguard product purity, protect retailers against pilferage, and assure consumers of a true count.

By using our Free Packaging Service—as Upjohn and other leading drug manufacturers have done—you can see for yourself how distinctively-styled "Cel-O-Seal" cellulose bands can most effectively complement *your* packaging program, too.

DU PONT
CEL-O-SEAL
REG. U. S. PAT. OFF.
CELLULOSE BANDS

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

"Extras" build acceptance for Purepac...

Beyond the practical and necessary job of preventing lid back-off and tampering, the Purepac Corporation has found that other packaging "extras" offered by "Cel-O-Seal" bands play an important role in building retailer and consumer acceptance for its products.

The company uses the extra labeling space to highlight sanitation, carry other sales messages. An unbroken neckband seal enhances quality, reflects extra care in preparation and packaging. And Purepac reports that the printed bands add a finishing touch to each package.

The decorative and protective *extras* offered by "Cel-O-Seal" bands can help *you* keep pace with today's packaging demands.

Dickinson combines distinctive packaging with protection

For years, E. E. Dickinson's witch hazel packages have combined distinctive packaging with sanitary-sealed protection. And an important feature has been the "Cel-O-Seal" band at the top of each bottle.

Company officials agree that the colorful packaging and seal of protection have become even more important since the trend to self-service selling. Druggists and other retailers profit from better displays, know they don't have to worry about tampering even though products are now handled directly by customers.

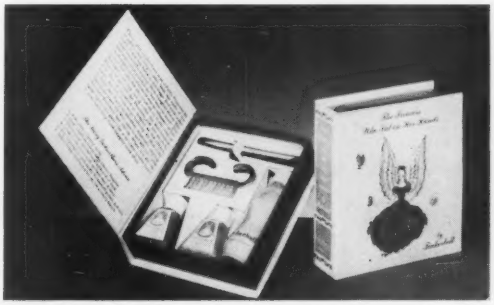
In some areas, Dickinson also uses "Cel-O-Seal" bands printed to feature the price at the top of its individual packages.

FREE PACKAGING SERVICE: See how "Cel-O-Seal" Bands can help *your* packaging program. Send us a labeled container. Our packaging specialists will band it, make recommendations, return it for your inspection. No charge, no obligation. Write: E. I. du Pont de Nemours & Co. (Inc.), "Cel-O-Seal" Bands Dept. F, Wilmington 98, Del. "Cel-O-Seal" Bands are also sold by Armstrong Cork Co., Lancaster, Pa.

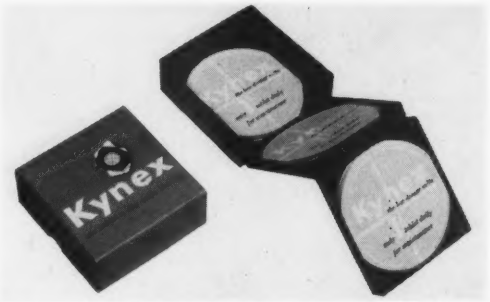
Set-up Paper Box Competition Awards

Of the 79 awards made at the Eighth Annual Set-up Paper Box Competition, fourteen went to drug or cosmetic packages. Merchandising appeal, complement of product and box, brand identification, and convenience of use by the consumer were the criteria used in selecting winners. Awards were also given for excellence of design, construction, and display. Judges observed that an increasing part of the total package cost is being spent on appearance.

Honorable mention in drug and pharmaceutical boxes: Ciba's Pyribenzamine Compound Nasal Spray. Transparent extruded sleeve aids display and protects tray and contents from soilage. Printed block-type insert gives extra space for descriptive copy.



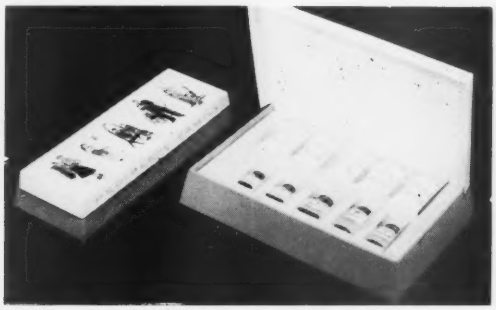
Honorable mention in rectangular cosmetic boxes, Tom Field's Tinkerbell Princess box. To heighten the child's interest in the cosmetics, a story is printed on the inside of the lid. Bottles and manicuring instruments are secured in a die-cut platform.



First award in pharmaceutical mailing boxes: Lederle's Kynex. A compact box is achieved by using an accordion-type tray for the three samples it contains. Despite its unusual features, this novel box is 85 per cent machine made.

Honorable mention in round and oval cosmetic boxes: Simonetta's Incanto. Perfume purse dispenser and cologne aerosol rest in a red velvet platform and are held in position by a die-cut insert in the lid. A reproduction of Rome's Collosseum is on the top.

Second award in pharmaceutical mailing boxes: Smith Dorsey's Triaminic family box. The red "stop" sign on the lid aims at arousing the physician's interest. A styrofoam platform cradles the bottled medicine, while folders describe and contain tablets.



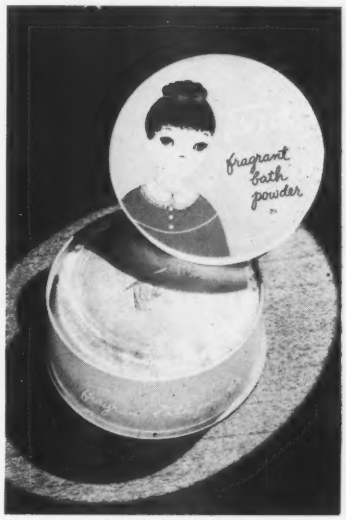
First award in promotional boxes: Merck Sharp & Dohme's Rediplate presentation box. Apothecary jars and vitamins in bottles are in the tapered base. Full color reproductions are on the hinged lid of this box, which is meant to arouse interest for the new vitamin line.

440 . . . a number to remember when you're looking for an attractive, practical container for shampoo, after shave, hand lotion or similar products.
This is our newest stock design and at present is available in 4 and 8 ounce sizes.
It can be supplied either plain for labeling or decorated to your specifications.
GLASS STIMULATES SALES
Lanolin
Shampoo
CARR-LOWREY GLASS CO.
Designers and manufacturers of fine glass containers
Factory and Main Office: BALTIMORE 3, MD. • New York Office: 415 MADISON AVE. • Chicago Office: 1572 MERCHANDISE MART

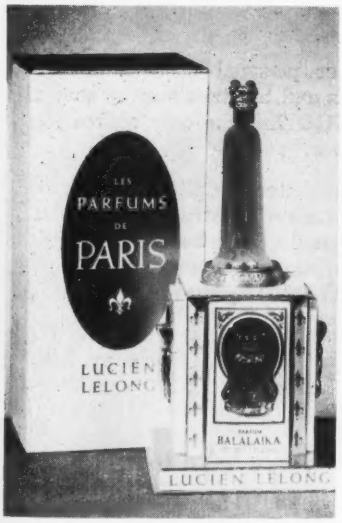
Second award in superiority of construction: Max Factor's Cosmetic Treasure Chest. Light blue and fitted with brass, the chest has a satin covered platform. Gold foil insert lid secures cosmetics in platform when box is closed.

Second award in design and execution: Ciba's Serpasil. This blue, book-style box has a plastic finish. Sample envelopes are positioned in a set-up tray by a single die-cut insert.

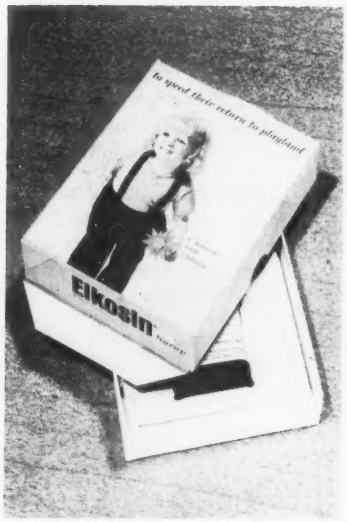
Second award in design and execution: Ciba's trade products presentation box. The surface design of the box maintains simplicity but creates the desired ethical pharmaceutical effect.



Second award in round and oval cosmetic boxes: Lentheric's Tweedie Bath Powder box. The round, pink and blue box has a top label designed to attract the youngster.

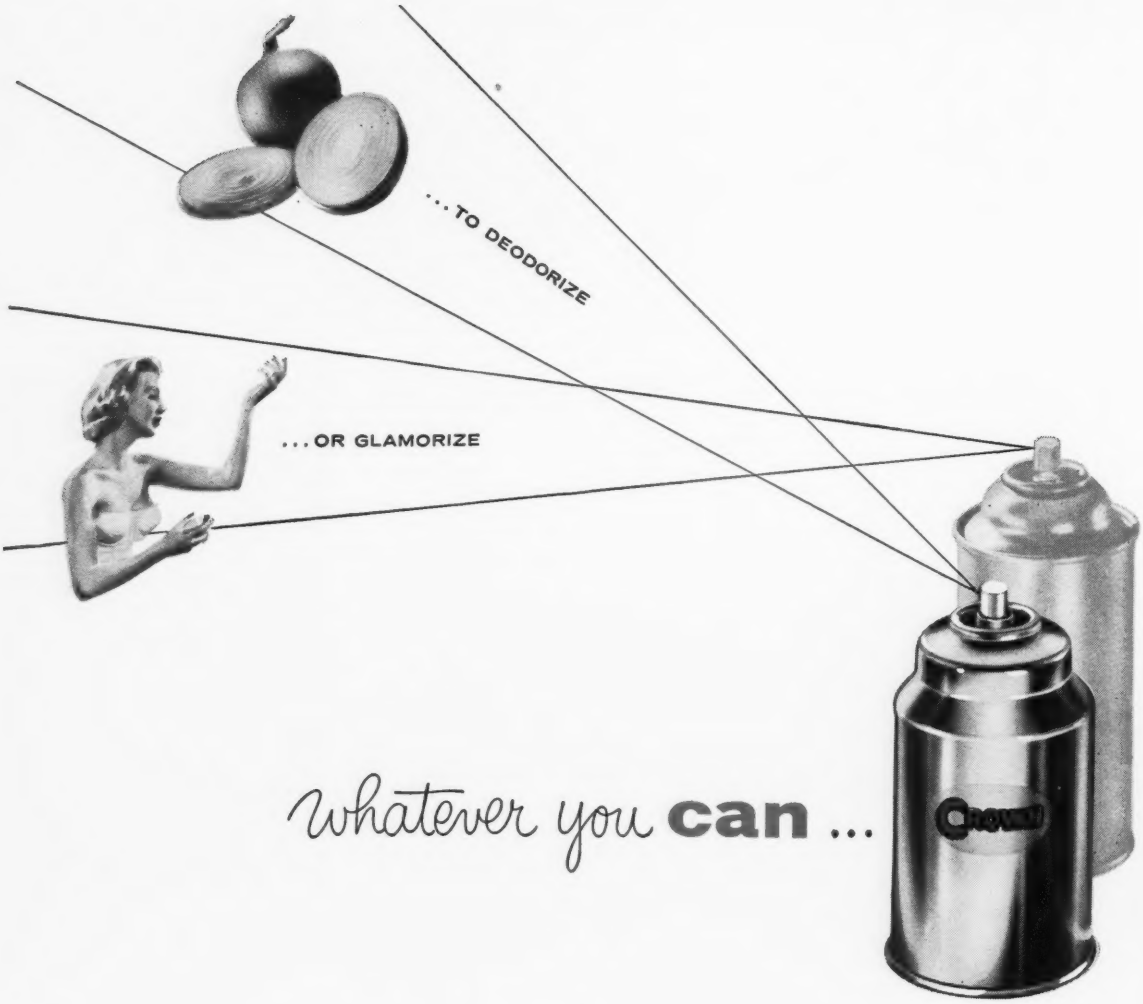


Second award in rectangular cosmetic boxes: Lucien Lelong's Parfums de Paris. A larger bottle rests on the top of the pedestal, three smaller bottles of different fragrances at the base.



Honorable mention in pharmaceutical mailing boxes: Ciba's Elkosin. Designed to announce availability of syrum form for children, the photo on the lid quickly conveys this idea.

First award in rectangular cosmetic boxes: Matchabelli's Collector's Items box. When the box is opened, figures in the Currier and Ives skating scene "pop-up" and add a third dimension.



whatever you **can** ...

can with CROWN Spra-tainers

For pressurized room fresheners or personal deodorants—for literally hundreds of household items and toiletries such as soaps, cleansers and polishes—*can* with CROWN, the only source for Spra-tainers . . . fabricated or seamless.

Spra-tainers offer the filler and marketer definite advantages. Metal guarantees no breakage. Seamless construction provides high-styling. Full wrap-around lithography lends beauty and high-fashion. And, if style is not a factor in your product merchandising, CROWN offers the conventional fabricated Spra-tainer.

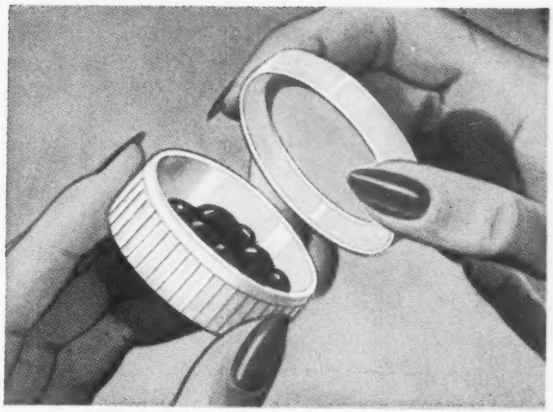
Write for your copy of CROWN's new 3rd edition—"GUIDE TO PRESSURE PACKAGING." Crown Cork & Seal Company, Inc., Can Division, 9328 Ashton Road, Philadelphia 36, Pa.

whatever you can . . . call on CROWN

CROWN CORK & SEAL COMPANY, INC.

MANUFACTURERS OF CLOSURES, CONTAINERS AND MACHINERY

Easy to use . . .
Customer simply lifts off



Convenient . . .
and fits together again

Designed for pocket or purse . . .
Sized just right for day's supply of tablets or capsules

O-I's new Pocket-Pak

. . . adds Premium Appeal to your salespackage!

This plastic carrying case, offered exclusively by Owens-Illinois, is a packaging idea that has a special appeal to customers.

It's a premium. And it's everything a successful premium should be: it has eye appeal and obvious value . . . it is functional . . . it is a good-will builder . . . and, as long as it is used, it serves as a favorable reminder of your company and your products.

The new Pocket-Pak can be personalized with your brand name at a nominal cost, for added impact.

Ask your Owens-Illinois representative to show you this newest of packaging ideas . . . another sales-building benefit for you from Owens-Illinois.

Call him today!

OWENS-ILLINOIS PLASTICS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

Packaging and Selling

The Big Drive

Look for an avalanche of merchandising plans as part of the step-up space selling of the big consumer magazines. This renewed activity seems to be pretty clear proof that the big consumer promotion boys have suddenly realized that what takes place at the point of sale is pretty important.

In the mail as releases March 27th and March 28th were the two new drug store promotions of Look and Life. Look's promotion, "Enjoy One-Stop Shopping for Summer Health and Fun," as based upon "More than 3,500 leading chain and independent retail drug outlets which are expected to participate in the nationwide event," We couldn't help noticing that word "expected" and we also couldn't help wondering about this mass consumer magazine which is making all this noise about a store promotion that takes in just 3,500 stores.

Life comes through in about the same way. Their drug store promotion, "Nationwide drug merchandising program" comes up with 1,600 stores serviced by the Ketchum Co.

We wonder what's happening to all this conversation by the space solicitors of Life and Look on their tremendous influence on mass distribution which we understand they classify as 55,000 drug stores, 60,000 grocery stores and 12,000 variety stores.

Energetic Life

It ain't fair. According to "Patterns of Disease," prepared by Parke, Davis & Company, over a half of the victims of coronary heart attacks are stricken while resting or sleeping. Just why do these doctors keep telling the tired businessman to relax and take it easy?

Father's Day

It is a little discouraging to read about the plans for Father's Day merchandising in so many other industries. The latest is the campaign of the National Retail Merchants Association to work up a big cooperative drive with a large number of people in the men's apparel and furnishing industry.

The cosmetic industry once did an outstanding industry-wide marketing job for this particular gift day and rolled up an extra volume of sales that most certainly passed $2,000,000.

In the last few years the promotions of our trade have dribbled down to the half-hearted efforts of a few companies.

Multiple Display

It seems as if E. B. Weiss, who is now Director of Merchandising for Doyle Dane Bernbach, Inc. but is best known for his writing on merchandising subjects, has discovered a trend to multiple display in retail stores.

This has long been the dream of many manufacturers. According to Mr. Weiss, a few have accomplished it and the opportunity is now opening wide, deep and handsome for others to explore this new trend.

In a comprehensive study, in fact the number 7 study of this series, Mr. Weiss produces "Winning Multi-Location Exposure For Brands In Mass Outlets."

This booklet can be secured from the advertising agency at 20 West 43rd Street, New York 36 or 6399 Wilshire Blvd., Los Angeles 48, Calif.

Variety Stores

According to "Variety Store Merchandiser" variety store's growth in the next few years will be largely in shopping centers.

Self-service has grown from 91 stores at the end of 1953 and by the end of 1957 totalled over 1,000 stores. This trend is exepected to continue.

There is also a trend toward building larger stores. Counter-footage in some stores, such as Kresge, averages over 20,000 square feet and in some exceeds 80,000 square feet.

National chains average between 5,000 and 10,000 square feet in increased size, as against between 1,000 and 2,000 feet for the smaller regional chains.

By 1960, the variety store will look more like a department store. But the variety department store will not make the mistake of forgetting that it is the "Department Store of the Masses". Its expanded merchandise assortment will have hundreds of well-known brand names but the economies of variety store operation will always be passed along to its 7 billion customers in lower prices.

All this is the prophecy of "Variety Store Merchandiser."

Down on the Farm

It is interesting to note what an important part the pharmaceutical industry plays in our farm prosperity. According to a recent article in the Chemurgic Digest, the purchases of this industry for farm products covers an amazingly wide area of different prod-

here is a *Discriminating* young lady

When she is selecting her cosmetics, will the containers in which your products are encased be the most attractive she will see?

And after those glamorous containers have remained on her dressing table for a time, or have been jostled about in her purse, will they still look better than the competitive items with which they have been rubbing elbows?

You can be certain that your lipsticks, pursers, compacts, rouge and mascara boxes, and other cosmetic containers will set the highest standards of beauty, fashion and quality — at the point of purchase and in use — when you avail yourself of the services and facilities of Scovill.

We will work with you on your own designs, create designs from your ideas, or design special containers exclusively for you. And more often than not, highly individualized containers can be built around our wide line of standardized components, thus keeping costs to a minimum.

Representatives qualified to discuss your cosmetic container problems may be reached in Scovill offices in these cities:

New York—161 East 42nd St.—Oxford 7-3222
Chicago—4105 W. Chicago Ave.—Nevada 2-2303
Los Angeles—6464 E. Flotilla St.—Raymond 3-7221

Scovill Manufacturing Company—Cosmetic Container Division—99 Mill Street—Waterbury, Connecticut

Cosmetic Containers by **SCOVILL**

MARYLAND GLASS DESIGNERS WORK CLOSELY WITH MOLDS FOR DESIGN FIDELITY...

BUT ESSENTIALLY

Package design begins with an idea

Every craftsman knows his tools, but the creative package designer must do more—first he must bring an idea to life. An idea that says Yes to questions like: Is this container distinctive? Will it sell on the shelf? Does it pack properly, ship safely? Our design department specializes in designs that stop the eye . . . start the sale. For an affirmative solution to your design problems, contact Maryland Glass Corporation, 2147-53 Wicomico St., Baltimore 30, Md.

STOCK DESIGNS
A variety in blue or flint glass . . . in a complete range of sizes . . . is ready for immediate shipment.

PACK TO ATTRACT IN

MARYLAND GLASS

Blue or Flint · Jars and Bottles

ucts which must amount to a tremendous sum in dollars. For instance, the survey states that "Eli Lilly and Company uses about $2 millioin worth of farm products annually in antibiotic production alone—lactose, glucose, soybean oil meal, corn steep liquor, sucrose, refined soybean oil, starch and lard oil."

Creative Thinking

Brainstorming, which went up like a Sputnik, may come down much quicker than most people have thought.

According to some research by a Yale psychology professor, brainstorming defeats its purpose and actually throws a wrench into creative thinking.

According to this professor, "A given number of people who work in a group seem to follow the same train of thought—more so than the same number working individually."

What about all these committee meetings that so many of our big companies are so passionately in love with?

Factor Switches

Uneasy lies the head of the advertising men handling cosmetic accounts. Although this has been a year of high peak account switching on Madison Avenue, the cosmetic companies seem to have been a little in advance in this procession.

This seems to be particularly true of the cosmetic people who have been spending quite a lot of money in television. Reading between the lines on the advertising reports, if we were in the agency business and had a cosmetic company spending a few million dollars, we would hesitate very much to put them on television, that is if we like the people and wanted to continue handling their account.

The latest "mutual difference" is between Max Factor and their agency, Doyle, Dane Bernbach who has been handling this account for seven years and spending the very cozy sum of $3,000,000. This agency has been handling Max Factor's cosmetics, Signature men's products, Electrique and Primitif colognes and perfumes, Hi-Fi cosmetics, and Foot Light foot balm.

Max Factor's television show has not been too happy a one, according to the rating surveys. Guy Mitchell was a very quick casualty and was replaced by a comedy, "Love That Jill" which also quickly fell into the low rating. Another show, Polly Bergen, has been rated in a third position with a less than 18 audience rating.

Drug Store Survey

A drug store survey made by Printers' Ink and reported recently in their journal finds druggists saying that people come into their stores and refuse to buy products that are advertised with gross exaggerations and tasteless copy. And they complain to the druggist for carrying brands that are falsely advertised.

The druggists' big complaint is that national advertisers whoop up a promotion and then drop it. Folks come in and buy during the build-up. The druggists stock up. Then the whole thing falls flat.

Trouble for Hazel Bishop

The new financial statement of Hazel Bishop, Inc. contains some extraordinary reading. For the fiscal year ending October 31, 1957 this company did a business of $10,006,462. On these sales there was a net loss of $996,048. This was the third year in a row in which the company has operated on a loss and the largest deficit so far.

According to Raymond Spector, president, the company "incurred extraordinary costs in connection with the important organizational and marketing changes which were inaugurated in 1957." Just what these organizational changes are were not made clear to us but there must be a great deal of confusion in the minds of stockholders as to who owns which and what, because there has been quite a bit of movement in sales and transfers between the company, the agency and vaguely, a subsidiary or two.

There is also some reference to unusual goods returns in November and December of 1957 amounting to about $200,000 and a breach of contract claim for $94,046.

The injection of a bright note was made by Bert Schwartz of this company who stated, "Please note that our financial statements do not include our principal asset—Good will."

Revlon in Food Stores

Revlon is evidently stepping up their drive in retail grocery stores judging by recent advertising in food trade magazines.

Ten Revlon products are featured in a mass display offered to food retailers.

Except "Satin Set" and perhaps "Silken-Net" and also "Aquamarine Lotion" the products do not strike us as falling into the classification of the kind of quick turnover items the grocery stores are seeking.

We wonder how long it will be before the food markets which take these factory selected items in the Revlon line begin clamoring for the more popular Revlon products and find ways of getting them.

New Names

For some unexplainable reason this drug and cosmetic publication is on the mailing list for the publicity releases of a well-known Rochester seed house.

We read these releases with a great deal of pleasure because we happen to derive a great deal of pleasure in our own particular garden.

In one of the recent releases we were interested in some very imaginative christening for some new flower varieties. We think these names are fully worthy of the perfume business, than which there can be no greater praise. We refer to the New Zinnia, the Pink Lady and the new Morning Glory, Sunrise Serenade.

Perfume manufacturers are harassed beyond words when they try to name a new perfume because they discover that almost every conceivable single word in the English language that has any suggestive or descriptive powers is already trademarked and a colossaly large number of two word combinations have also jumped the trademark barrier. As just a passing thought to the people who have exhausted our own

Colonial

for

Unsurpassed Quality in Silk Screening

COLONIAL'S Special Services Division is the department that devotes itself to silk screen printing of droppers, vials and syringe cartridges.

This is an automatic process to insure clean, precise registrations . . . and to keep costs low. Hard ceramic inks are used — then baked on a high temperature to withstand chipping and chemical action.

Incorporated in our Special Services Division is the art department, created to assist clients in the basic work of creating eye-catching designs for droppers, vials and syringe cartridges. Every step, from the initial design right through to finished delivery, deserves — and gets — careful supervision.

Remember, too — that the Colonial program of swift, accurate service and prompt delivery are operating fundamentals. Get full information from our sales representative at left, or if you prefer, write direct.

CONTACT THESE COLONIAL REPRESENTATIVES

CHARLES E. SCHWAB
122 E. 42nd St., New York 17, N. Y.
Phone: OXford 7-0760

ALLEN J. GRETSCH
327 S. LaSalle St., Chicago 4, Ill.
Phone: WAbash 2-1619

HARRY M. GRABER
811 S. 53rd St., Philadelphia 43, Pa.
Phone: GRanite 6-6311

RICHARDS GLASS CO.
102 Atlantic Ave., Toronto 3, Canada
Phone: LEnox 2-3311

GABLER & GABLER
435 S. LaCienega Blvd., Los Angeles 48, Calif.
Phone: BRadshaw 2-2995

COLONIAL APPLICATOR CO.
VINELAND, NEW JERSEY

book, The Trademark Record, Roget's Thesaurus and Webster's Dictionary, we suggest as a possibility the catalogs of some of those nurserys which specialize in creating new floral varieties.

New POPAI Materials

Here are some of the successful applications of new materials used in retail display, according to a survey of the Point-of-Purchase Advertising Institute.

Successful application of new materials in 1957 included: 4-color process on metal foil; use of vacuum forming and indirect lighting; new methods for metal knock-down floor displays that can be quickly assembled without tools; special back printing to give the illusion of transparency effect; flocked nylon netting in motion; personalizing of vacuum formed plastics in dimension; front and back printing on special paper; and pearlizing of plastics.

The most successful displays of 1957 included: formed vinyl plastic; multi-purpose plastic and cardboard units; pole toppers, frame for soft drink poster; wire and sheet metal combination; snap-in plastic letters; and combination plastic and lithographic picture frame with 3-D plastic logotype and parts.

There was a substantial increase in the number of advertisers who directly tied the point-of-sale material into the overall advertising campaign: 61 per cent reported that in 1957 more displays were tied in directly with the overall advertising program and a total of 85 per cent said that the percentage was at least equal to the previous year or higher. No one reported that this percentage had declined.

Impulse Sales

In a recent study by the Home Testing Institute Diary Study of McCall's Magazine, the percentage of 'impulse purchase' of various cosmetics was determined.

The impulse percentage purchase reported was: men's hair tonics . . . 16.5, hand lotions and creams . . . 29.2, nail polish . . . 26.6, lipstick . . . 24.1, face powder . . . 24.1, personal deodorants (spray) . . . 22.1, personal deodorants (liquid) . . . 16.4.

Some of the cosmetic people who are primarily supermarket conscious have been emphasizing impulse sales as the primary factor in moving goods at the point of purchase. It is true that impulse buying in retail stores has shown an enormous growth over the last ten years and accounts for a substantially large part of many purchases in a retail store.

However, it should be kept in mind that impulse purchasing flourishes in periods when the consumer has a surplus to spend and will probably shrink accordingly and proportionately as surplus available income declines.

Jittery Retailers

The Three Belk-Simpson Co. department stores in small South Carolina towns have added canned goods to fight the increasing display of soft goods in supermarkets.

In this mixup and jumbled channels of retail distribution which is getting the consumer more and more confused, it would hardly seem that the answer of the apparel store to the supermarket would be an excursion into canned goods. Surely these particular small town department stores do not feel that they have reached the apex of efficient buying, efficient salesmanship and efficient customer service in their own particular specialized field of apparel.

New Private Label

The National Tea Co. of Chicago is shipping its new private label cosmetic line to its various branches in the Midwest and the South.

Reports are that the line will include, shampoos, shaving creams, deodorants and deodorant soaps, cold creams, bath salts and bubble bath. We understand that the brand name will be Color Bouquette.

Reports are that this new cosmetic line will be made by an outside private label manufacturer and handled through National Laboratories, a new subsidiary of National Tea. Prices are suppose to run about 30 per cent under national brands, which means it will retail in the neighborhood of 49c.

Promotions with Stockholders

Not many companies in this industry have the distinguished honor of being listed among the security holdings of any of the leading mutual funds.

But there are a few, and of these, only one has sensed a promotion opportunity in this investment program.

One of the leading mutual funds not long ago bought a substantial block of stock in Warner-Lambert. Soon after, this investment fund had occasion to mail a statement to their stockholders. With this statement went a sample package of the cold remedy Super-Anahist with "enough tablets to stop one average-sized cold."

Here is what the fund wrote to their stockholders accompanying this sample remedy. "We hope you do not have a cold, but if you do, it should make you feel better to know that. . . .you have an investment in your remedy."

If the mutual funds more generally favor the stocks of this industry, we shudder to think of what could happen at this particular time when many stockholders are looking somewhat askance at their financial situation. Tranquillity drugs, yes, but for heaven sakes, let's stop there!

Wow!

Here's the way a lot of the big agency people think. This is a quote. "There has been a greater personal need for status symbols . . . as their economic and social position shifts, people need a visible symbol that affirms to themselves as much as to others where they stand."

Advertising Inquiries

How to get inquiries from advertising! Strange as it may seem, there is some evidence that the more effective your advertising is in stimulating reader interest, the fewer inquiries it will pull.

In a recent study of advertising readership by the magazine Electronic Industries, 37 technical advertisements were then checked for the inquiries produced. *(Continued on page 627)*

A PACKAGING TEAM NEEDS

One of the most important factors in the success of a product is its package. That's why many companies are making packaging decisions *team* decisions. But to make your packaging team complete, it needs an outside viewpoint. It needs an Anchor Man...the man from Anchor Hocking!

He is a glass packaging specialist, backed by capable package engineering and research technicians, modern laboratory and manufacturing facilities. He can strengthen your packaging team in evaluating and selecting glass containers and colors that will do the best job for you, your retailers and consumers. He can also help your team in the selection of a closure that will

AN ANCHOR MAN!

most completely and economically satisfy your diverse and specialized requirements.

Your Anchor Man is a good man to know ... a good man to have on your packaging team. Contact him! Anchor Hocking Glass Corporation, Lancaster, Ohio. Branch offices in all principal cities.

ANCHOR HOCKING
Glass Containers and Closures

the lady never heard of G. Barr & Company

. . . but we're contributing to her daintiness and charm

The famous brand of spray cologne, hair spray, tooth paste, antiseptic, car polish, room deodorant, and scores of other aerosol products found in homes all over America were in many instances developed in our research laboratories and private label manufactured by us.

While our name *never* appears on a package, G. Barr & Company's aerosol packaging know-how is the *"hidden ingredient"* that is helping to sell tens of millions of America's leading aerosol products today. Have you heard the G. Barr & Company story? Ask for facts today!

G. BARR & COMPANY

Private Label Aerosols

3601 S. RACINE AVE. CHICAGO 9, ILL.

The best read advertisements were those that gave the most engineering data and the best information. The least read advertisements, that is the ones that produced the most inquiries, were those that failed to give very much engineering information but offered this data separately in free bulletins, catalogs and brochures.

The lesson from this seems to be that if you want your advertisement to be read, put some useful information in it. If, on the other hand, you want to sacrifice some of the value of the advertisement to get an inquiry, then offer this wanted information in a separate mailing piece.

Personality

It seems to us from a printed statement that a lot of retailers are beginning to worry about the individuality of their store.

Here is what a prominent retailer recently said. "Brands must grow—but important stores must rise above them or there will be no conceivable reason for shopping at X as against Y."

Social States

One of the surprising findings in the recent consumer survey by Life Magazine is that while the automobile is among the classifications most responsive to an increase in income, it also found that as income increased, the consumer still spent about the same percentage of income for the automobile. In other words, as families increased their income, they do spend more on automobiles but not a bigger percentage of their income. This seems to keep at a steady 14 per cent.

The automobile, as an industry, has plenty of competition for the consumer's dollar. For one thing, a great many new products are moving into the status symbol so that the ownership of an automobile is no longer the one predominant factor in the public mind as a status image. For instance, among the new status symbols which the consumer craves are high-fidelity equipment running up to $300 million in sales, boats, outboard motors and accessories taking nearly $2 billion, swimming pools of which 87,500 were built last year, portable TV sets said to take over $1 billion from the consumer and the growing foreign car market.

When you read of this, you wonder that the consumer has any money left for the perfume and lipstick to establish a social status. Or are we alert to the need for industry education.

Cosmetics for Feet

The cosmetic industry has covered pretty well every nook and corner of the human body. Two parts, however, have not as yet developed any particular volume of business, that is the body and the feet. However, Dunbar Laboratories seem to believe that they have a product which will expand their market because they have announced quite a substantial national advertising campaign in Life, Ladies' Home Journal, Vogue, Good Housekeeping and McCalls.

"Pretty Feet" retails at 98c and is claimed to actually remove dry or calloused skin in seconds.

No Inquiries

Holy smoke! Whoever thought that advertisers would tell publishers that they did not want any inquiries. And yet, that is exactly what Chas. Pfizer & Co. have just done in a standard printed form to publishers.

For the edification of all other advertisers, we print here this precedent shattering request from the Pfizer advertising agency.

"We have been requested by our client, Chas. Pfizer & Co., Inc., to advise all publications which are carrying the Pfizer schedule that they do not wish to be included in any inquiry stimulating plan which the publication may have in effect.

"We realize, of course, that this request may not apply in the case of your publication. If this is so, please ignore this letter. On the other hand, if your publication does carry a reader inquiry card or some other device to generate inquiries, please do not include the name or any reference to Chas. Pfizer & Co.

"We make this request simply because past experience has shown that inquiries received indirectly do not indicate exactly the material that the reader wants sent to him.

"Thank you very much for your co-operation."

Helpful Merger

It seemed to us a little strange when we read the other day that a company which made something of a name in the manufacturing of chlorophyll should purchase and merge with another company whose chief business is the construction of jails.

We do not see how this merger can possibly be construed as a program for associated selling. On the other hand, perhaps this chlorophyll company has a very helpful suggestion for one of our pharmaceutical manufacturers who are well established with a tranquilizer.

Back to Bulk?

Apparently that highly publicized retail revolution is still in operation. A new phase of the revolution, however, may not be so appealing to national manufacturers as the supermarket development, self-service, etc.

A discount food store on a huge scale, just outside a suburban area, is being planned for large family consumers.

Plans call for locating the store on farm land near suburban sites adjoining Minneapolis.

The general idea is extremely low markup, with the operation based on bulk, in-bushel, and 100-pound bags of merchandise, plus truck and trailer-lots, all retailing at semi-wholesale prices.

Trailer carts of 1,000-pound capacity would be available at the premises for lending to shoppers for hitching to automobiles at no charge.

This idea seems to us to fit in very well with the social trend to much larger families, for suburban living and for increasing preference for discount operations.

If this kind of store is going to spread, what will happen to packaging?

News in Packaging . . .

Sees Aerosol Fragrance Sales Of 40,000,000 Units in '59

Sales of aerosol-packaged colognes and perfume should total more than 40,000,000 units in 1959, and aerosol colognes alone should reach sales volume of $100,000,000, according to a prediction by Donald S. Tuttle Jr., sales manager of the Valve Division, The Risdon Manufacturing Co.

Aerosol packaging within the next few years can conceivably do for the entire fragrance industry what it already has done for hair spray manufacturers—boost the sales of colognes and perfumes by several hundred per cent, he said.

During 1956 almost 9,000,000 units—about one-third of all colognes and perfumes sold in the United States—were packaged in aerosols. Last year the total probably was twice as large, said Mr. Tuttle.

In 1956, colognes alone, in conventional and aerosol packaging, accounted for nearly two-thirds of the fragrance industry's sales volume—$58,340,000 of a total cologne and perfume volume of $91,200,000. Although the sale of aerosol-packaged perfumes has been negligible in the past, Risdon's sales manager pointed out that in 1957, there was a rapidly growing demand for perfumes in aerosol packages.

"Sanstress:" New Plastic Film

"Sanstress," an unbreakable, flexible, transparent plastic film, resistant to heat and chemicals, has been introduced by the Sanford Plastics Corporation, Matawan, N.J., and is presently being used for packaging of sutures and is under test for one-shot doses of parenteral solutions, antibiotics, and cosmetic preparations.

Manufactured from virgin Kel-F, a trifluorochloroethylene plastic, the new material, available in thin-wall tubing form, is free of normal stresses and strains, and its high molecular weight permits sterilization by all conventional methods without distortion. "Sanstress" has a permeability of virtually zero for almost all liquids, including water, alcohol and formaldehyde, as well as for vapors and odors. It may be sealed and imprinted by conventional methods.

Plastic Vies with Opal Glass

Indistinguishable at a glance from opal glass is Poly-Opal, being produced by Lermer Plastics, Inc., Garwood, N. J. and made of Fortiflex, the rigid polyethylene produced by Celanese Corporation of America.

Herman B. Lermer, vice-president of Lermer Plastics, has announced that production has started on five stock sizes ranging from one-half to four ounces and that his company will sell to both the industrial and prescription ware trades. He said that the plastic jars weigh only one-fifth as much as glass and will not break, even when dropped on a tile or concrete floor.

Herman Lermer, vice-president of Lermer Plastics, Inc., demonstrates weight differential between opal glass and Poly-Opal.

Aerosol Research Chemist

Dr. Hedwig Toome has joined Old Empire, Inc., as assistant research chemist in aerosols.

Harvey C. Tull, manager of aerosol products, Crown Cork & Seal Co., calls attention to the valve developed by Precision Valve Corporation and Crown Cork's six-ounce Spra-Tainer in which major brand toothpastes are being packaged.

Sales Mgr. for Propellants

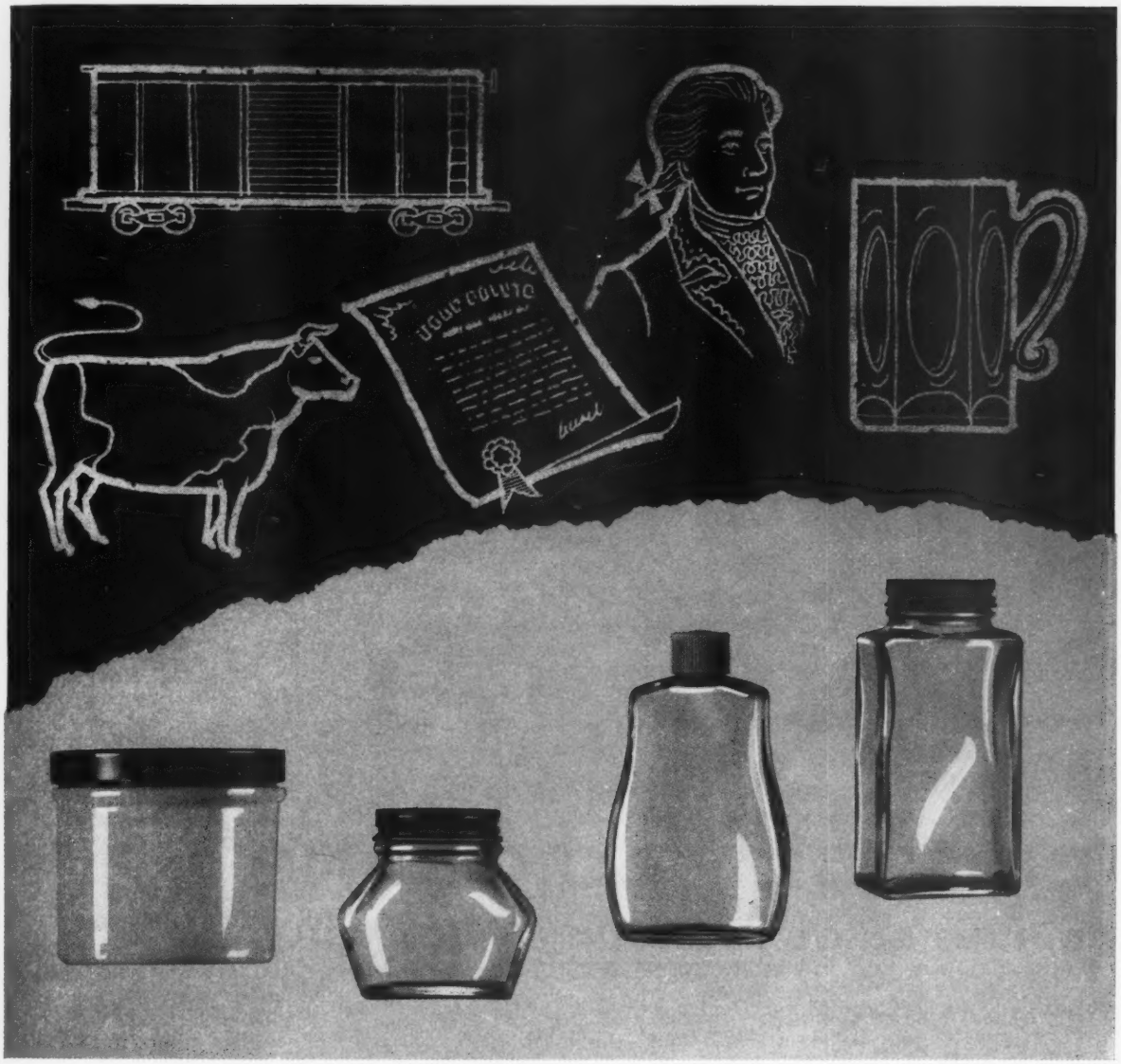
Elbert E. Husted has been appointed sales manager-fluorocarbon propellants for Union Carbide Chemicals Company, according to John R. Hulten, manager-fluorocarbons sales. Mr. Husted, who will have charge of sales to the aerosol industry, will make his headquarters in New York City.

Knox Moves Cleveland Office

Knox Glass Incorporated has moved its Cleveland sales office from the Forest Hill Building to larger and more convenient quarters at 25000 Euclid Avenue, Cleveland 17. In addition to increased office space, better parking facilities are available, according to John F. Hahn, branch manager for the Cleveland area. The new phone is ANdrews 1-2180.

Built with the aid of a grant from Aerosol Techniques, Inc., Columbia University College of Pharmacy's new aerosol research laboratory, opened April 30, will be used as part of a graduate program for research on the development of pharmaceutical pressurized dosage forms. Speaker at the dedication was Dr. Leonard A. Scheele, former Surgeon General of the United States and now president of Warner-Chilcott Laboratories. Seen at work in the new facility: Dr. Joseph L. Kanig, left, in charge of laboratory, and Harvey Mintzer, a graduate student.

...glamour in glass!



...stock, stock, stock, stock, and stock

Some you eat, some you ride, some you invest, some you drink, some you used to wear—and one you can *bank* on—beautiful opal and flint H-A *Stock* Containers. H-A Opal jars are straight, light—strong, white. They hide air-pockets, and are straight-sided for easy filling. And permanent "Deco-fired" labels can be economically applied at the time of manufacture. *Give your products a very special appeal*—**call or write H-A right now.**

HAZEL-ATLAS GLASS division of CONTINENTAL CAN COMPANY

WHEELING, WEST VIRGINIA

AEROSOL PACKAGING

can start sales rocketing – for you!

And here's how General Chemical can help you get your new aerosol ideas off the ground.

You've seen many aerosol products "take off" on a sales curve that shoots straight up. You've seen total aerosol sales increase over 30% *per year* since 1951 . . . to 320 million units in 1956. Perhaps you'd like to know more about the aerosol market and its potential. As a leading supplier of aerosol propellants—the "Genetrons"—General Chemical will be glad to provide extensive market information . . . and help you in other ways as well.

For example—if you are interested in marketing a new aerosol, General Chemical can tell you about promising new aerosol formulations developed in our laboratories . . . and can assist in the development of *your own* new aerosol formulation.

You may want to know about contract fillers and how they work. General Chemical can tell you about reliable contract fillers in all parts of the country who are equipped to handle production of test market *and* commercial quantities—relieving you of any need to invest in special equipment or personnel.

Interested? Write "Genetron" Dept., General Chemical Division, Allied Chemical Corporation, 40 Rector Street, New York 6, N. Y.

genetron® aerosol propellants

GENERAL CHEMICAL DIVISION

40 Rector Street, New York 6, N.Y.

Allied Chemical

Patent thoughts and trends

BY THOMAS CIFELLI, JR., PATENT ATTORNEY*

Trademark Management

This is the title of a book which in the writer's opinion should be in the library of everyone conected with any aspect of trademarks. The book is written for business people, and while it is not intended to take the place of trademark counsel, nevertheless, it does contain a tremendous amount of good practical information. The book is published by the United States Trademark Association, 522 Fifth Avenue, New York 36, New York.

For some time, the need for presenting some practical guidance in the field of trademarks has been in the thinking of this department. While this need has shown itself in many ways, perhaps the best way of getting the idea across is to say that many business people who use trademarks seem to be bent on doing just about everything wrong. They first start out by insisting on coining marks of extremely doubtful value and then they often proceed to misuse the marks so that whatever legal rights might have been created have been lost. When one attempts to straighten out the typical business man he is confronted by the comment that X or Y or Z do it the way the business man wants to do it, presumably because whatever the other fellow does must necessarily be the right way.

It is obvious that hard-headed business men do not intentionally spend money to develop trademarks and then do their best to destroy their rights, just to be perverse. The logical answer is that one cannot be an expert in everything, and the average business man has so many problems with which to contend that he follows the line of least resistance in many cases; and this is true with regard to trademarks. Stated otherwise, the problem is easily soluble by the simple word "education."

It is just here that the aforementioned book is believed to be of great value. If it were felt that every interested reader would purchase the book in question that is all that would be said here. For the benefit of those who do not choose to obtain a copy of the book and in order to add some views or comments of the writer himself, it is proposed to take up the various aspects of Trademark Management in these columns.

The following topics, patterned on the chapter headings of the aforesaid book will be considered:

Choosing the Right Trademarks
Registration
Proper Use of Trademarks
Internal Administration of Trademarks
Policing of Trademarks
Trade-Names
Foreign Problems.

The present article will deal with the first topic: Choosing the Right Trademarks.

What Is a Trademark?

The comprehensive federal law relating to trademarks, commonly called the Lanham Act, has an excellent definition of this term. The definition follows:

The term "trade-mark" includes any word, name, symbol, or device or any combination thereof adopted and used by a manufacturer or merchant to identify his goods and distinguish them from those manufactured or sold by others.

At the outset, it should be emphasized that a trademark and a trade-name are not the same. The latter refers to the *company*. The former refers to the *goods*.

With respect to a trademark it should, in addition to distinguishing your goods from those of others, also serve as a guaranty of consistency of quality and it should lend itself to advertising and sales promotion.

Selecting a New Mark Based on Existing Marks

There are three ways in which existing marks may serve as a basis for trademarks for new products.

1. You may simply apply your existing house mark to the new product. This is done by many companies such as General Electric and Vicks. The advantage of using such a mark is that it already possesses goodwill and therefore your new product will have a ready-made acceptance. The danger here however is that if you "goof" with your new product your entire line may be adversely affected because of the bad reaction to your new product and consequent carry-over of the resulting ill-will to your established line.

2. Instead of the house mark, you may employ special product marks. These may be used on only one item or on more than one item. LISTERINE is an example of a mark which is used on more than one item, namely an antiseptic and a toothpaste. KLEENEX is an example of a single product mark. It is used for facial tissue and was not extended to toilet paper for which the mark DELSEY was coined.

3. You many consider using a common stem in your various trademarks. Dow and Monsanto have followed this practice as witnessed for example Santophen and Santicizer.

Selection of Entirely New Marks

If it is decided not to use any existing marks or derivatives thereof then there are three categories of new marks which may be considered:

1. Those which are meaningless. These fanciful marks which have absolutely no meaning with respect to the goods. Examples of such coined words are KODAK, CAMEL, 4711 for cologne, letters such as RCA, historical characters like G. WASHINGTON for coffee and picture marks like those of WHITE OWL.

The meaningless marks are the ones which trademark attorneys generally favor because the courts are inclined to give such marks the

*Richards and Cifelli, Newark, New Jersey

'ere's APAP 'appy news!

Express Service on

N-ACETYL PARA AMINOPHENOL

now from a reliable new source

This fast-action analgetic is in commercial production now at NYQ.

Tonnage quantities in coarse and fine powder form are available for immediate delivery coast-to-coast from five strategic stockpoints. Shipment is always made within hours.

Released from the Federal Register in 1955 for over-the-counter sale, n-Acetyl Para Aminophenol is used in many successful preparations. It works well in formulations with few if any incompatibilities.

We will be glad to send samples to demonstrate the superior quality of NYQ production. Prices are fully competitive.

This is one of a complete line of analgetics available from NYQ. Others include Salicylamide, Acetophenetidin (fine and coarse powder and fine crystal), Acetanilid, Aspirin (all meshes and types) and . . . naturally . . . Narcotics. We'll gladly quote on your needs.

Please send samples of NYQ APAP posthaste.

NAME_____

COMPANY_____

ADDRESS_____

New York Quinine & Chemical Works

50 CHURCH ST., N. Y. 8, N. Y. ● 729 W. DIVISION ST., CHICAGO 10, ILL.

NYQ

widest sort of protection. However, the sales people generally rebel at such marks because they represent no initial goodwill at all as far as the customer is concerned.

2. Descriptive marks. This type of mark has absolutely no legal value when it is first used. This is so because courts refuse to permit anyone to pre-empt the English language for descriptive purposes. That is why, for example, NU-ENAMEL on paint or enamel could not be protected when first used. However, if the public eventually associates a secondary meaning with the term as indicating a product coming from a certain source, then the law will recognize the mark as a legal trademark. Descriptive marks in general are much favored by sales and advertising people because such marks obviously lend themselves to sales promotion right from the beginning.

3. Suggestive marks. This category of marks is somewhere between the meaningless or fanciful marks, favored by trademark attorneys, and descriptive marks, favored by sales and advertising people. In other words suggestive marks represent a middle ground. They are more appealing to the customer than fanciful marks because while not descriptive they nevertheless suggest the nature of the goods and therefore constitute a selling point. The trademark attorneys go along with such marks without too much objection because they are not merely descriptive and hence begin their lives with legal value. A good example of a suggestive mark is COPPERTONE for sun-tan preparation.

Desirable Characteristics in a Trademark

The following represents a listing of desirable characteristics in a trademark:

1. Brevity-short one s y l l a b l e marks seem to be the rage these days. Sample, of such marks are JOY and SPRY.

2. Easy to remember-e.g. DUZ.

3. Easily adaptable to any media.

4. No unpleasant connotations. When alarm clocks called YANKEE CLIPPER were found to be selling poorly in the South the trademark was changed to DIXIE BELL and sales improved.

5. Suitable for export.

6. Lends itself to pictorialization-e.g., FOUR ROSES.

7. Subtlety, for e.g., PEP for cereal.

Parenteral Vehicle for Therapeutic Agents

One of the problems which has been given much attention in the drug field is that concerned with the administration of water-insoluble therapeutic agents. Many hormones, steroids and antibiotics fall in this category. Specific examples would include progesterone and penicillin salts.

Efforts to make suitable injectable compositions containing these water-insoluble therapeutic agents have taken the form of oily solutions and aqueous suspensions. Now come Pfizer inventors who tackled the problem and have come up with an answer involving forming a suspension of the therapeutic material in a vehicle having substantially the same specific gravity as the therapeutic material.

For this solution (no pun intended) U. S. 2,829,085 was recently issued. The inventors point out that in order for a therapeutic agent to be useful it has to be dispersed but the medium in which it is dispersed must be such as not to cause irritation at the site of injection. The inventors mention previous attempts to solve the problem by using materials such as gum acacia, pectin, or methyl cellulose which in the presence of water produce mixtures of high viscosity such that the sedimentation of insoluble therapeutic agents is retarded. The inventors point out that this method has certain disadvantages. For one thing, sedimentation is only temporarily retarded. Also, uncertainty of dosage is a factor. Then too, high viscosity suspensions are disadvantageous because of the difficulty in handling their resistance to flow through the needle and the problem of sterilizing equipment which has become sticky.

The inventors state that it was unexpected that solutions having a concentration sufficiently high to give the requisite specific gravity would not be too irritating for injection purposes.

The vehicle used by the Pfizer inventors comprises certain polyhydroxylated compounds, for example, sorbitol, which are added to water so as to give a solution which has a high enough specific gravity to suspend a water-insoluble therapeutic agent and which will not cause irritation at the point of injection.

The inventors state, without explanation, that it was to be expected that since the specific gravity of the suspending medium and that of suspended therapeutic agents were close together the mixture would be very sensitive to minute changes in temperature. They found, however, that the suspensions may be heated from room temperature to 50°C. without sedimentation taking place.

Example 1 taken from the patent, illustrates a specific application of the invention:

The following mixture was injected into a patient with good results. The composition is expressed in the units mg./ml.

Progesterone	50
Sorbitol	354
Polysorbate 80 (U.S.P.)	4
Benzyl alcohol	9
Water	746
	1,163

The progesterone, polysorbate 80 and a portion of the benzyl alcohol were milled as a concentrate in water for 48 hours in a ball mill jar with ½ inch porcelain balls. After milling the concentrate suspension was diluted with aqueous sorbitol solution containing benzyl alcohol to give the concentrations stated above. The sorbitol concentration is such as to give a specific gravity of 1.163, equal to that of progesterone.

RECENT PATENTS

2,815,314—**Verdurin Co. — Therapeutic Composition Comprising Comestible Base.**

2,815,315—**Union Chemique Belge (Belgium) — Analgesic and Antirheumatic Preparation.**

2,815,344—**Carrol Dunham Smith Pharmacal Co. — Water Insoluble Polythionates.**

2,815,346—**Burroughs Wellcome—6-Chloropurines.**

2,815,349—**Nat. Research Dev. Corp. (England)—Anti-Thyroid Thioglyoxalones.**

2,815,353—**J. Fried—Pregnenes.**

2,815,363—**G. D. Searle—Alcoholic a-Hydroxyphenylacrylonitriles.**

2,815,379-80—**Hoffmann-La Roche—Alicyclic Ketones.**

2,815,381-2 — **Givaudan Corp. — Alkyl Substituted Hydrindacenones and Tetrahydronaphthindanones.**

More Reasons from ROCHE*

Profitable products are made with **Roche Thiamine** Hydrochloride and Mononitrate (vitamin B_1) that come **right from Roche,** because you get **U.S.P.** purity. (Roche thiamine, in hydrochloride and mononitrate forms, equals or exceeds U.S.P. standards.) You get **regular,** for tablets, capsules, dry and liquid nutritive supplements and multivitamin preparations; and **ampul** (hydrochloride only) prepared especially for manufacture of parenteral solutions . . . you get **service and supplies** you can count on, because Roche produces quality vitamins **by the tons** . . . you get the rewards of **research:** through its world-wide vitamin research Roche is constantly enlarging **vitamin knowledge** and perfecting new vitamin improvements . . . you get completely uniform **quality,** through Roche scientific production control . . . you always get **dependable deliveries** from convenient points. You get **"special-problem attention:"** Roche thiamine mononitrate will, for example, help you **solve stability problems** that sometimes affect your dry cereal or pharmaceutical products, and sometimes cause trouble if their pH range exceeds the safe level for the hydrochloride . . . you get the richness of the **vast Roche vitamin experience** to back up your own skills and knowledge . . . you merely have to ask for **free samples and technical assistance** from your Roche salesman or by calling or writing Roche . . . Get your vitamins **right** from Roche Vitamin Division, **Hoffmann-La Roche Inc., Nutley 10, New Jersey,** NUtley 2-5000. New York City: OXford 5-1400. Pacific Coast: L. H. Butcher Company, San Francisco, Los Angeles, Seattle, Portland, Salt Lake City. Canada: Hoffmann-La Roche Ltd., 1956 Bourdon Street, St. Laurent, P. Q.

*Roche Reg. U. S. Pat. Off.

NEWS...

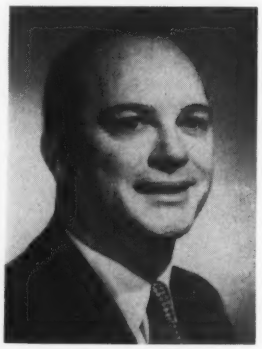
Researchers Win Travel Awards

Six physicians from the United States and abroad have been named as recipients of Purdue Frederick Medical Achievement Travel Awards for outstanding medical and scientific activities. The awards will enable the winners to attend medical meetings of their choice here and in Europe, thereby "furthering the international exchange of medical ideas and information on a physician-to-physician basis."

Two of the award winners are from the United States, both of the University of Minnesota: Dr. C. W. Lillehei of the School of Medicine and Dr. Edgar V. Allen, Professor of Medicine of Mayo Foundation Graduate School.

Patrey Is Bourjois Pres.

Frank X. Patrey has been elected president and general manager of Bourjois, Inc., according to an announcement by Pierre Wertheimer, chairman of the board. Assistant general manager and vice-president of the firm for the past four years, Mr. Patrey succeeds Lewis F. Bonham, who has resigned as president of Bourjois to become president of the Home Products Division of Miles Laboratories, Inc. Mr. Bonham will continue as a member of the board of directors of Bourjois.



FRANK X. PATREY

Volwiler Abbott Chairman; Cain Succeeds Him As Pres.

Dr. Ernest H. Volwiler, president and general manager of Abbott Laboratories since 1950, has been elected chairman of the board of directors. George R. Cain, formerly executive vice-president, has been elected to succeed Dr. Volwiler as president and general manager, and Edward A Ravenscroft, formerly financial vice-president, has been elected executive vice president.

Dr. Volwiler assumes the post which had been vacant since Jan. 21 when James F. Stiles Jr., took early retirement from the company to accept a federal position as Assistant to the Secretary of the Treasury and National Director of the U. S. Savings Bonds Division.

Dr. Volwiler joined Abbott in 1918 as a research chemist and in 1920 was named chief chemist. He became director of research and a member of the board of directors in 1930, vice-president in charge of research and development in 1933, and executive vice-president in 1946.

Mr. Cain, who had been executive vice-president since 1950, joined the Abbott sales department in 1940. He became assistant manager of the Hospital Division in 1942 and assistant sales manager in 1946. In 1957 he became administrative assistant to the president and a member of the board of directors.

Mr. Ravenscroft joined Abbott in 1929 as a chemical engineer, was manager of the engineering department from 1932 to 1935 and chief engineer from 1935 to 1944 when be became director of engineering and a member of the board of directors. He was elected vice-president in charge of engineering in 1951, vice-president and comptroller in 1955, and financial vice-president in 1957.

Industrial Medical Assn. Pres.

Dr. H. W. Lawrence, medical director of the Procter & Gamble Company, was elected president of the Industrial Medical Association recently at the Thirteenth National Industrial Health Conference. Dr. Lawrence is also Associate Professor of Industrial Medicine in the Institute of Industrial Health, University of Cincinnati.

The Industrial Medical Association is the national association of physicians who are specialists in industrial medicine and surgery.

Wins Lilly Biol. Chem. Award

Dr. Lester J. Reed, research scientist in the Biochemical Institute of the University of Texas, received the $1,000 Eli Lilly and Company Award Biological Chemistry April 14 in San Francisco during the 133rd national meeting of the American Chemical Society. The presentation was made at a general session of the Society in the Nourse Auditorium. The society convened April 13 through 18.

Dr. Reed was honored for his research on lipoic acid—the most recently characterized member of the Vitamin B group—the functions of vitamins, and the growth essentials for micro-organisms. The Society's Division of Biological Chemistry held a special symposium on the "Function of Lipoic Acid" during which Dr. Reed delivered his award address entitled "Some Aspects of the Chemistry and Function of Lipoic Acid."

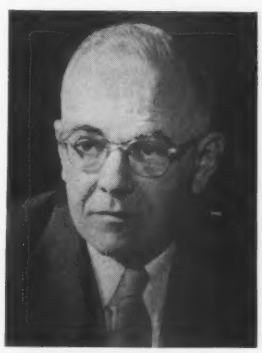
Givaudan Moving Offices, Labs

Executive and sales offices and service laboratories of The Givaudan Corporation and its associate companies, Givaudan-Delawanna, Inc., Givaudan Flavors Inc. and Sindar Corporation, are being moved to 321 West 44th Street, New York 36, Telephone: CIrcle 5-0300.

The new facilities will include larger perfume, cosmetic and flavor laboratories.

Norwich Research Vice-Pres.

Dr. William B. Stillman has been elected vice-president in charge of research of The Norwich Pharmacal Company, George W. Bengert, president, has announced. With Norwich Pharmacal since 1939, Dr. Stillman is one of the discoverers of the antimicrobial characteristics of the company's nitrofuran chemicals.



DR. WILLIAM B. STILLMAN

"SOFTEN" HER WITH SILICONES

The word *silicones* on today's label turns lookers into buyers. And the water-resistant silicones in the container help turn buyers into good "lookers." Not an active ingredient in cosmetics, Dow Corning Silicone Fluids prevent water-borne irritants from penetrating the skin. They make creams and sun-tan lotions stay put, less sticky, smoother and easier to spread. In hair treatments, silicones keep hair in place—give it a softer look and feel. Dow Corning's active chemical research program has resulted in superior silicone fluids carefully tailored for use in all types of cosmetic preparations. Available in every practical viscosity, Dow Corning Silicone Fluids are carefully quality-controlled. They're physiologically and chemically inert, odorless, and form excellent carriers for active ingredients.

Dow Corning 200 Fluid and 555 Fluid are the silicones most widely used in cosmetics. Samples, technical data, and suggestions on using these fluids most effectively are readily available from the technical representatives in our nearest branch office.

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

ATLANTA • BOSTON • CHICAGO • CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEW YORK • WASHINGTON, D. C.

Awarded Liljencrantz Medal

For his research on the effects of high speed and high altitude flight on human vision Brig. Gen. Victor A. Byrnes, USAF (MC) received the Liljencrantz medal at the annual awards banquet of the Aero Medical Association.

Contributing to Gen. Byrnes' nomination for the Liljencrantz medal was his research on the prevention of eye injuries in nuclear warfare. The award, established in 1956 by Pfizer Laboratories, is given for research into medical aspects of acceleration and high altitude flight.

The medal is named for Commander Eric Liljencrantz, Chief of the Medical Research Division of the Bureau of Medicine and Surgery, U. S. Navy, at the time of his death in November, 1942. Commander Liljencrantz was killed when his plane went out of control during a flight test of a new accelerometer.

Dr. J. J. Van Gasse, general manager of Pfizer Laboratories has stated that "Pfizer sponsors this award because we in the pharmaceutical industry are particularly aware of the vital importance of basic research to medical progress. In the aeronautical field increased basic medical research is obviously essential to the nation's continued leadership in the air."

The first Liljencrantz medal was awarded in 1957 to Col. John Paul Stapp for his research of the effects on humans of extreme deceleration stress using a rocket-powered sled.

D'Aigremont Back from S. A.

Jacques d'Aigremont, president of Roure-Dupont, Inc. and Floramatic, Inc., has returned to New York after visiting the firms' principal clients and representatives in South America.

DR. ROBERT A. TURNER

Josiah K. Lilly, right, vice-chairman of Eli Lilly and Company's board of directors, and Herman B. Wells, president of Indiana University, lend a hand at ground-breaking ceremonies for the Lilly Library. The million-dollar building will house the more than 20,000 first editions, manuscripts, and folios, which were presented to the university in 1956 by Mr. Lilly.

Pharmaceutical Research Discussion Group Officers

Elected 1958 chairman of the Pharmaceutical Research Discussion Group is Edward Hanus of Merck & Co., Inc. Frank Reinish of White Laboratories has been elected secretary-treasurer; Jack Cooper of Ciba Pharmaceutical Products, Inc. and George Hoffnagle of the Vick Chemical Company have been elected members of the steering committee.

Organized in 1956, the group discusses non-confidential general information relating to the formulation, stability testing and development of pharmaceutical products.

Harmon on Allied Labs Board

Charles T. Harman, vice-president in charge of pharmaceutical production for Pitman-Moore Company, was recently named to the board of directors of the firm's parent company, Allied Laboratories, Inc.

Asst. to W-C Labs President

Dr. Robert A. Turner has been appointed assistant to the president of Warner-Chilcott Laboratories, Dr. Leonard A. Scheele. Dr. Turner will aid Dr. Scheele in all his areas of responsibility, particularly as liaison with the newly created Warner-Lambert Research Institute.

Prior to joining Warner-Chilcott, Dr. Turner was director of pharmacological research for Sandoz Pharmaceuticals. He has also held posts with the New England Institute for Medical Research and Ciba Pharmaceutical Products, Inc.

Breck Re-elected Chairman Of Brand Names Foundation

John H. Breck Jr., executive vice-president of John H. Breck, Inc., has been re-elected chairman of the executive committee of the Brand Names Foundation, Inc. Roy W. Peet, manager of the Association of American Soap & Glycerine Producers, was again designated to represent that organization for a term of one year. James J. Hill Jr., chairman of the board, Sterling Drug, Inc., will continue serving a three year term as director. Boone Gross, president, The Gillette Company, was re-elected as a director.

P-D to Build New Canadian HQ

Construction of new Canadian headquarters for Parke, Davis & Company, Ltd., to be located on Cote de Liesse Road in the town of Mount Royal, will start next month, according to C. D. Smith, vice-president and managing director. It is scheduled for completion by the end of the year.

Howard B. Fonda Retires

Howard B. Fonda, senior vice-president of Burroughs Wellcome & Co. (U.S.A.) Inc., has retired after 37 years of service to the firm. His career with Burroughs Wellcome began in the sales department. Subsequently, he became administrator of the experimental research laboratories and later superintendent and vice-president of production. In 1945 he was elected to the board of directors and became senior vice-president. The following year he assumed responsibility for administration of the company's research and development and for trade, professional and community relations.

HOWARD B. FONDA

Hostess princess for the fourth annual "World's Biggest Fish Fry," held May 2 and 3 in Paris, Tenn., was Norma Pierce, second from left, sponsored by Golden Peacock, Inc. Members of her court are, left to right: Maxine Maxwell, first maid; Sue Beale, second maid; and Mary Harding, alternate. The fish fry was started by Mitchum E. Warren, president of Golden Peacock, four years when he was president of the Paris Chamber of Commerce.

Emery's Phila. Office Moved

Emery Industries, Inc. has moved its Philadelphia sales office to 4343 East River Drive. A company announcement states that the expanded facilities will enable Emery to offer increased service to greater Philadelphia accounts, and will serve as headquarters for J. P. Clancy, Eastern district sales manager of Emery's organic chemical sales department, and J. P. Kramer, sales representative of the Fatty acid sales department.

Matchabelli Sales Manager

Gerald A. O'Reilly has been promoted to sales manager of Prince Matchabelli Inc., it has been announced by Owen Stoner, president. Paul P. Woolard, who last year was elected vice-president of sales, has been acting as sales manager.

Mr. O'Reilly joined the company in May 1949 as a salesman, became a field sales manager in 1954 and last year was made assistant sales manager.

GERALD A. O'REILLY

De Cillis and Mottley Named to New Pfizer Posts

Joseph L. de Cillis, director of marketing research for Chas. Pfizer & Co., Inc., has been transferred to the company's international division and appointed manager of a new plant under construction in Argentina. Dr. Charles M. Mottley has been named to succeed Mr. de Cillis as marketing research director. Construction of a new Pfizer plant in Argentina is part of a $60 million capital expansion program launched by the company in 1957.

Carbide's New Chemicals Mgr.

Richard W. Eddy has been promoted to the position of manager, New Chemicals Division, of Union Carbide Company.

DUDLEY DUNLOP

Dudley Dunlop Retires

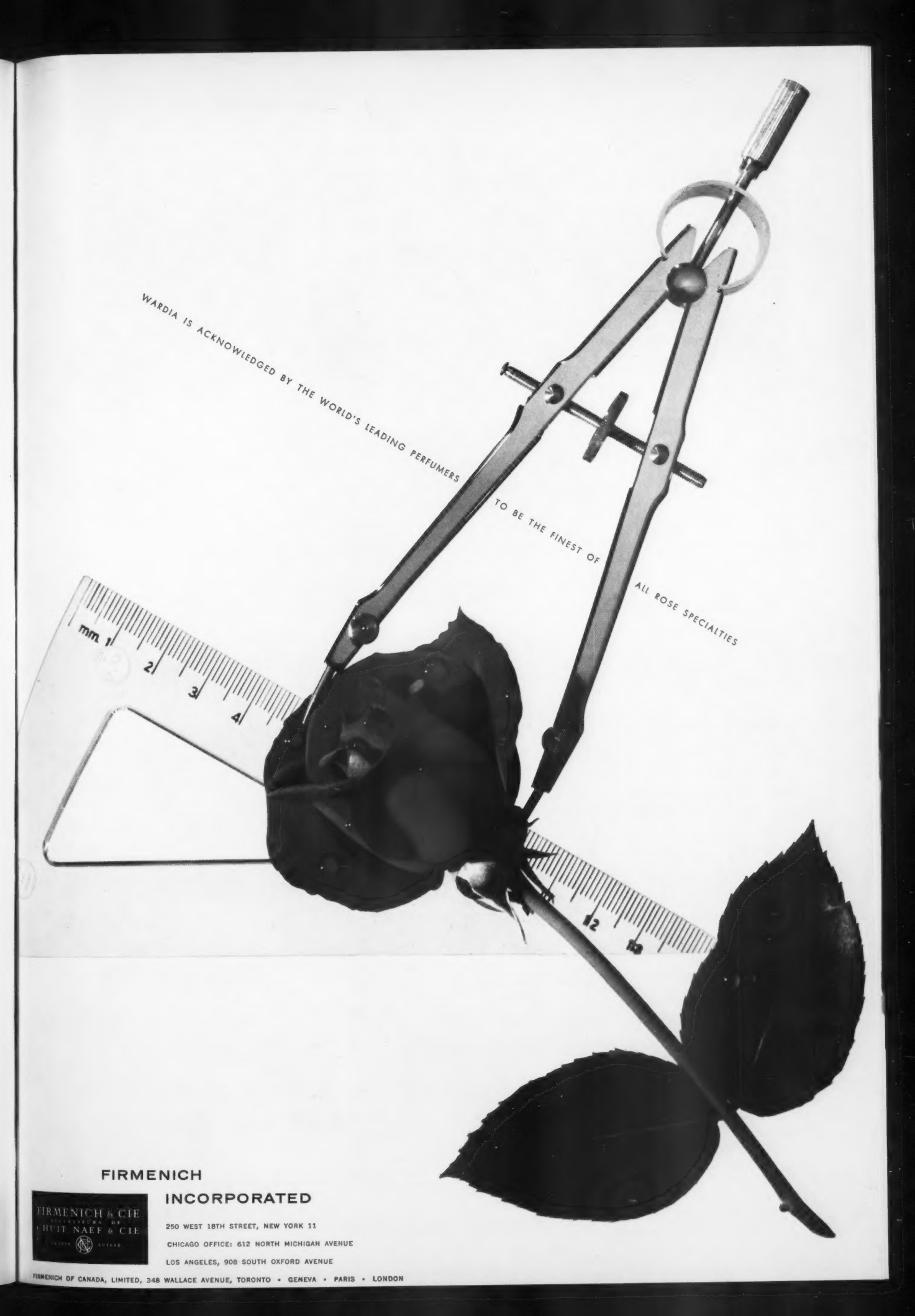
Dudley Dunlop, eastern division manager of Mallinckrodt Chemical Works, retired April 30, after more than 50 years of continuous service with the company.

He will continue as a consultant for Mallinckrodt, with an office in the company's New York headquarters. Shortly after his retirement he will make an extensive trip calling on many of his friends in the industry.

Product Specialist for Stokes

Charles M. Hammer has joined the headquarters staff of F. J. Stokes Corporation, Philadelphia, as product specialist on vacuum processing equipment, according to an announcement by David E. Stokes, manager of the company's Vacuum Equipment Division. Mr. Hammer was formerly with A. P. De Sanno & Son, Inc., Phoenixville, Pa., as assistant manager of its machinery division.

A panel discussion of cosmetic chemistry was conducted recently on the Herb Sheldon television show. Left to right: Gabriel Barnett, chairman of the Society of Cosmetic Chemists' education committee, who demonstrated a lipstick-molding procedure and outlined steps necessary to ready a lipstick for production; James Baker, president of the Society, who described the SCC's history and its work; Mr. Sheldon; Sabbat Strianse, past president of the SCC, who described modern methods of treating dry and aging skin; and Miss Ruth Bien, who discussed how cosmetics are tested and evaluated under her direction at the laboratories of the Good Housekeeping Institute.


WARDIA IS ACKNOWLEDGED BY THE WORLD'S LEADING PERFUMERS
TO BE THE FINEST OF
ALL ROSE SPECIALTIES
FIRMENICH
INCORPORATED
FIRMENICH & CIE
SUCCESSEURS DE
CHUIT NAEF & CIE
250 WEST 18TH STREET, NEW YORK 11
CHICAGO OFFICE: 612 NORTH MICHIGAN AVENUE
LOS ANGELES, 908 SOUTH OXFORD AVENUE
FIRMENICH OF CANADA, LIMITED, 348 WALLACE AVENUE, TORONTO • GENEVA • PARIS • LONDON

The Foremost Name in NEW Product Development

DURLIN

for the "ALL NEW" bulk nail polish

First **in Research**
First **in New Improved Clinically Tested Nail Enamels**
First **in Fashion Right Colors**
First **in Technical and Packaging Service**

glamorous hands *around the world . . .*

DURLIN CO.

744 Broad Street, Newark 2, N. J.

Cable Address: Durlin Newark Newjersey

R. D. Webb & Co. Formed From W. J. Bush Properties

Properties of W. J. Bush and Co., Inc. have been purchased and with them an independent American firm, R. D. Webb & Co., Inc., has been formed. R. D. Webb, who was treasurer of W. J. Bush, is president of the R. D. Webb & Co.

The new firm will continue operations at the former Bush offices in Cos. Cob, Conn., and at the plant and research laboratories in Linden, N. J. Sales offices in Chicago and Los Angeles will also be continued.

CSC District Managers

Walter A. Bauer has been appointed manager of the Cleveland district office of Commercial Solvents Corporation, and Robert W. Breindenbach has been named to replace him as manager of the St. Louis district office, according to an announcement by James V. O'Leary, general sales manager.

Mr. Bauer joined CSC in 1952 as an industrial chemicals salesman, and has served in Kansas City, Los Angeles, and Chicago.

Mr. Breidenbach came to CSC in 1948 and was assigned to the Los Angeles Office. He became manager for industrial chemicals in San Francisco in 1951. In 1954 he joined the agricultural chemicals sales department as assistant to the sales manager, and in 1956 he moved to St. Louis as Midwest sales supervisor for agricultural chemicals.

Vice-Pres. of D&O of Canada

John Thompson has been appointed vice-president of Dodge & Olcott of Canada, Ltd. He has served as manager of the D&O Toronto branch office for the past four and a half years.

Bosses of the members of the Cosmetic Career Women's executive committee were dais guests at the fourth annual Men's Day Luncheon of the CCW, held recently at New York's Waldorf-Astoria. Standing, left to right: Al Raymond, Manager, Cosmetic & Drug Advertising, McCall's; Philip Gigante, Gigante Paper Box Corporation; Joseph Morningstar, Chairman of the Board, Morningstar-Paisley, Inc., Arthur A. J. Weglein, President Daggett & Ramsdell, Inc., Morris G. Cohen, President, Oxzyn Company; Charles Cavalli, Manager Cosmetic Advertising, Mademoiselle; Seated left to right: S. L. Mayham, Executive Vice-President, TGA; Charles T. Lipscomb, Jr., President, Bureau of Advertising, ANPA guest speaker; Kay Fitzpatrick, TGA, Chairman of Luncheon; Richard Salomon, President, Charles of the Ritz, Inc.; Frazer V. Sinclair, Publisher, Beauty Fashion and Drug and Cosmetic Industry.

Merck Opens Colombian Plant

A new pharmaceutical manufacturing plant in Cali, Colombia, was officially inaugurated April 18 by Merck Sharp & Dohme International, division of Merck & Co., Inc.

The plant is equipped to formulate all types of sterile and nonsterile pharmaceutical products, including antibiotics, steroid hormones, and vitamins. It will manufacture enrichment products for human nutrition, as well as animal feed supplements. It will also supply the pharmaceutical industry with bulk vitamins and certain specialized chemicals for manufacturing.

National and local government officials attended the ceremonies, as well as Dr. A. T. Knoppers, president of Merck Sharp & Dohme International, and A. E. Ibarguen, vice president of Merck Sharp & Dohme (I.A.) Corp., the subsidiary that will operate the plant.

Schering Customer Service Mgr.

James R. Hind has been promoted to customer service manager of Schering Corporation.

Named B-M Vice-Presidents

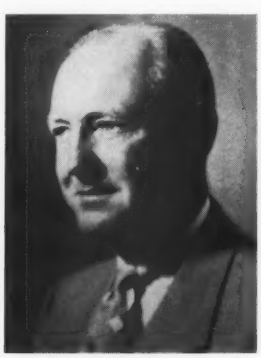
F. Harry Fletcher has been promoted to vice-president and national field sales manager, and Edward Gelsthorpe has been promoted to vice-president and general sales manager, E. Lloyd Bernegger, executive vice-president of the Bristol-Myers Products Division, has announced.

Mr. Bernegger, who formerly concentrated most of his time on sales problems, stated that the expansion of Bristol-Meyers Products Division requires devoting more of his time to general management.

Mr. Fletcher was associated with the Whitehall Pharmaceutical Company from 1941 to 1952, when he joined the Bristol-Meyers Products Division, as an executive in the sales division. In 1954 he was named field sales manager. In 1956 he was promoted to assistant vice-president and assistant sales director.

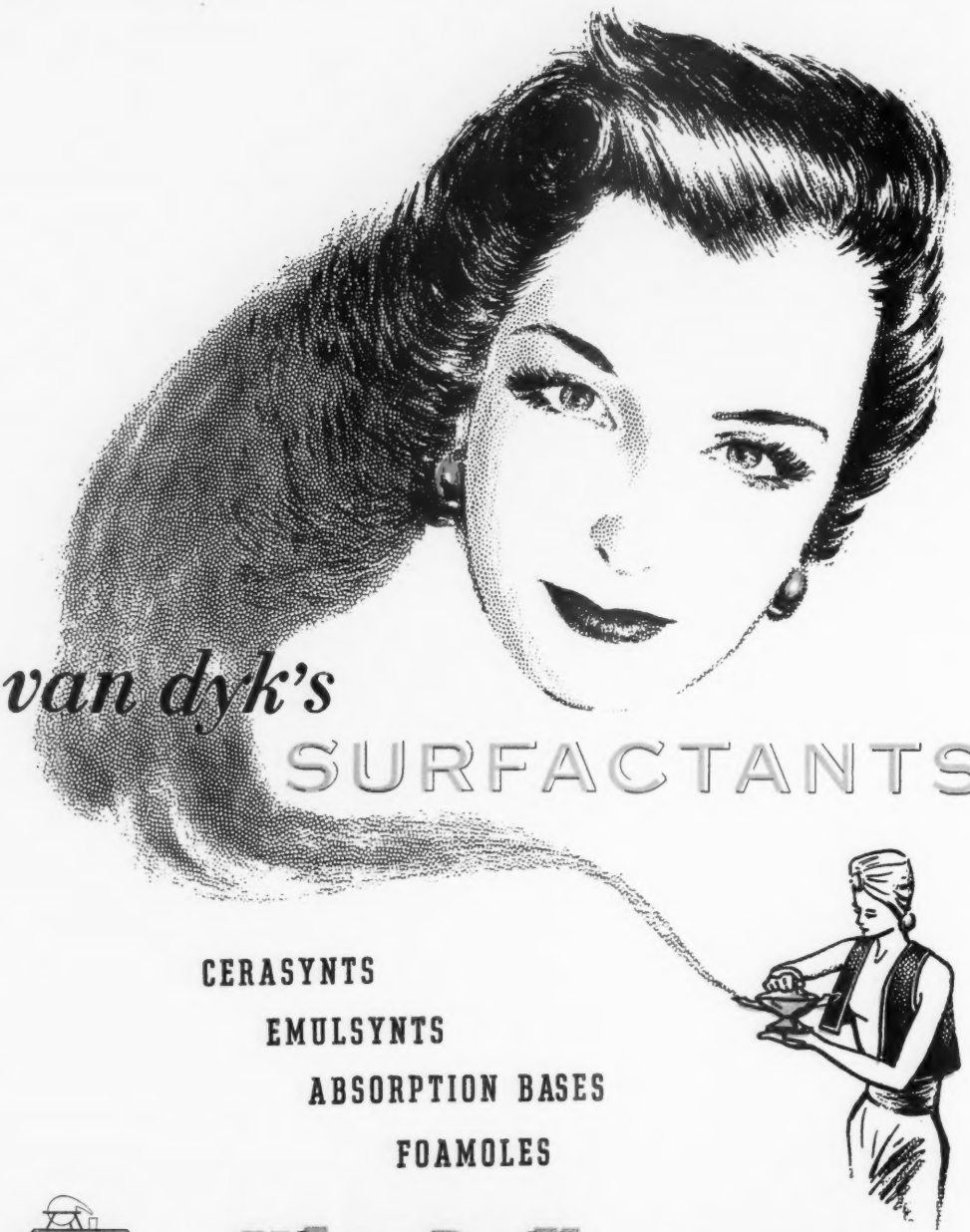
Mr. Gelsthorpe was sales manager of the Whiteford Paper Company until 1949 when he joined the Bristol-Myers Products Division. He was later promoted to director of food stores sales. In 1956 he was director of marketing of J. Walter Thompson Company. In 1957 he re-joined Bristol-Myers as assistant vice-president and director of merchandising.

EDWARD GELSTHORPE



F. HARRY FLETCHER

specialized for your cosmetics...



van dyk's
SURFACTANTS

CERASYNTS
EMULSYNTS
ABSORPTION BASES
FOAMOLES

VAN DYK & COMPANY, INC.
BELLEVILLE, NEW JERSEY

NEW YORK CHICAGO LOS ANGELES TORONTO

Mary Chess Buys Schiaparelli

The Mary Chess Company has bought Parfums Schiaparelli, according to an announcement by Joseph A. Danilek, president of Mary Chess. The two companies will continue as separate organizations, each having its own showroom.

Mrs. Beverly Stiansen will be vice-president in charge of sales for Mary Chess, and Arnold Berke vice-president in charge of sales for Parfums Schiaparelli. Sales representation for both companies will be coordinated with salesmen handling the two lines throughout the country. However, the sales territories are being revamped into smaller areas to enable sales representatives to cover each territory more frequently.

Mr. Danilek said that Mary Chess plans to keep intact the personality of both fragrance lines, and it will also concentrate on obtaining the latest creations from France.

Givaudan Sales Agent

Durkin Chemicals, Inc., 2603 Second Avenue, Seattle 1, has been appointed sales agent in Washington and Oregon for Givaudan-Delawanna, Inc., Givaudan Flavors Inc., and Sindar Corporation, according to an announcement by R. E. Horsey, vice-president in charge of sales for Givaudan-Delawanna.

Cyanamid Names Hill, Fennimore

Dr. A. G. Hill has been named assistant plant manager and A. C. Fennimore manager of the pharmaceuticals manufacturing department of the Bound Brook plant, Organic Chemicals Division, American Cyanamid Company, it has been announced by Dr. Wm. H. Bowman, division general manager.

DR. SAMUEL ZUCKERMAN

Promoted by Kohnstamm

Dr. Samuel Zuckerman, plant superintendent of H. Kohnstamm & Co., Inc., has been named a vice-president, Dr. David Jorysch, technical director of the flavor department, and Dr. Robert Cooney, a research supervisor, have been appointed assistant vice-presidents, according to an announcement by Paul Kohnstamm, president of the firm.

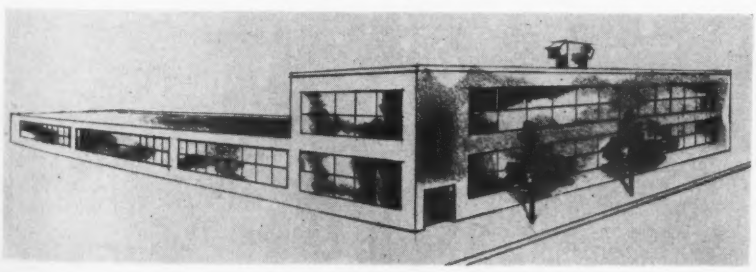
Edwards 25 Yrs. with Fritzsche

Carl W. Edwards, sales representative of the Chicago office of Fritzsche Brothers, Inc., was honored recently at a private party given by the company in Chicago to celebrate his twenty-fifth year of service with the firm. Mr. Edwards became the seventy-second person to be accepted into the Fritzsche Quarter-of-a-Century Club.

Bandelin Joins Strong, Cobb

Fred J. Bandelin has been appointed director of pharmaceutical research and development of Strong, Cobb and Company, Inc. Since 1948 he has been technical director of Flint, Eaton & Company; prior to that he was associated with Vick Chemical Company.

Sketch of new building for which the Felton Chemical Company will soon break ground. An urgent need for additional manufacturing space and expanded laboratory facilities has forced Felton to advance the construction starting date a year ahead of schedule. The building, which will face on Randolph Street and run back into present facilities on Johnson Avenue, will increase the Brooklyn firm's production capacity by about 45 per cent.



W. MEL TAYLOR

Joins F. J. Stokes

W. Mel Taylor has joined F. J. Stokes Corporation as assistant to the vice-president, sales, and manager of marketing, according to an announcement by Francis Dougherty, president of Stokes.

Merck Opens Plant in Brazil

A large new medicinal chemical and pharmaceutical plant in Brazil has been put into operation by Merck Sharp & Dohme International, the foreign sales and operating organization of Merck & Co., Inc., it has been announced by Dr. Antonie T. Knoppers, president of Merck Sharp & Dohme International.

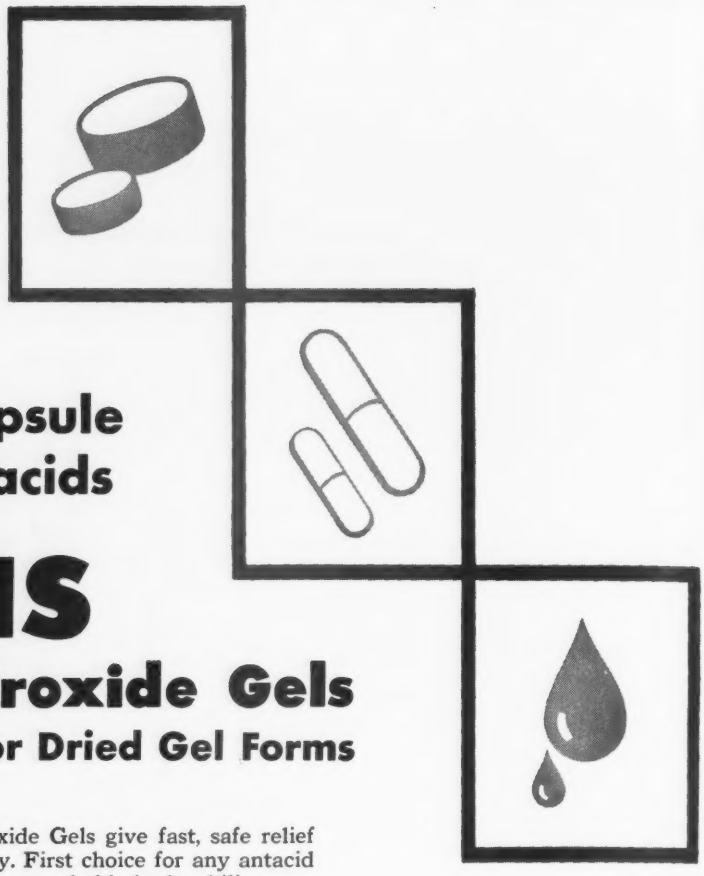
Constructed at a cost of several million dollars, the new plant occupies a site of approximately 10 hectares (about 25 acres) near the Atibaia River in Campinas, Sao Paulo.

The plant will produce sterile and non-sterile pharmaceutical products; steroid hormones and vitamins in bulk, for compounding into finished pharmaceutical products in the plant itself and for supplying to other pharmaceutical manufacturers in Brazil; enrichment products for human nutrition; and animal feed supplements.

The Campinas installation is the latest addition in the foreign expansion program of Merck, which now has 10 plants in foreign countries and distributes products in more than 80 countries of the Free World.

Huisking Moves Offices

Chas. L. Huisking & Co., Inc. has moved its executive and sales offices to 417 Fifth Avenue, New York 16; telephone: ORegon 9-8400.



For Tablet, Capsule or Liquid Antacids

REHEIS

Aluminum Hydroxide Gels

in Compressed or Dried Gel Forms

Reheis Aluminum Hydroxide Gels give fast, safe relief from stomach hyperacidity. First choice for any antacid product, Reheis Gels have remarkable hydrophilic properties. Reactivity tests prove they retain initial freshness and acid-neutralizing ability for years. And, an important advantage to the manufacturing chemist is the fact that the dried gels granulate with little or no dust... may be processed by a variety of methods.

Reheis Aluminum Hydroxide Gels Give *Your* Antacid Product All These Advantages

- long-lasting shelf life
- effective, fast antacid action
- no disturbing side effects
- uniformity in quality and purity
- compatibility
- granulate and compress easily

Wide range of grades — one adaptable to your formulations

Whether you are interested in a gel in dried form for tableting or in compressed gel for liquid preparations, Reheis has many grades, each developed with special characteristics to meet specific formulation requirements. From a wide range of grades, Reheis can select one to meet the performance requirements and production methods of your products.

SIDE EFFECTS

Is your product giving disturbing side effects? Reheis Aluminum Hydroxide Gels are recommended for use with drugs or chemicals which are prone to cause increased flow of stomach acids, or to protect drugs that are damaged by these acids. They may be the answer to your side-effect or compatibility problem.

Write today for free samples and full data.

4815

REHEIS COMPANY, INC.

Manufacturers of Fine Chemicals

BERKELEY HEIGHTS • NEW JERSEY

WILLIAM J. SCARLETT

Gen. Mgr. of Lee Metal

William J. Scarlett has been named general manager of Lee Metal Products Co., Inc., it has been announced by J. Munson Lee, president. Mr. Scarlett succeeds George H. Tay Sr., vice-president and general manager since Lee Metal Products was founded in 1928, who is retiring from active service due to ill health but will retain his title of vice-president and will be available as a consultant.

J. P. Smith on Pfizer Board

J. Philip Smith, general manager of the Chemical Sales Division of Chas. Pfizer & Co., Inc., was elected a member of the board of directors at the firm's annual shareholders meeting.

Merchants Chemical Pres.

James K. Watkins Jr. has been appointed president of Merchants Chemical Company, Inc., succeeding Lemuel Skidmore who has been named chairman of the board.

Edward L. Collins, manager, Iodine Division, Chilean Nitrate Sales Corporation, was guest speaker at a recent luncheon meeting of Cosmetic Industry Buyers & Suppliers Association. Shown after the meeting are, left to right: Allen T. Stewart, Parfait Promotional Packaging Co., CIBS' corresponding secretary; Mr. Collins; William Jaeger, Park & Tilford, CIBS' president; and Lamson Scovill, Scovill Manufacturing Co., CIBS' second vice-president.

Asst. to W-L Int. President

Dr. David D. Ogilvie has been appointed to the new position of assistant to the president of Warner-Lambert International, it has been announced by Paul R. van der Stricht, the division's president.

Dr. Ogilvie will assist Mr. van der Stricht in the administration of the 62 companies and branches affiliated with Warner-Lambert Pharmaceutical Company throughout the world. In the near future, he is scheduled to undertake special assignments in connection with the establishment of new foreign affiliates and exploration of potential new markets for the firm.

Before joining Warner-Lambert, Dr. Ogilvie was manager of the Pharmaceuticals and Agricultural Chemicals Division of Imperial Chemical Industries (New York), Ltd.

Asst. Sales Mgr. of Tussy

William P. Schliemann has been appointed assistant sales manager of the Tussy Cosmetics Division of Lehn & Fink Products Corporation, according to Paul Carey, vice-president and general manager of the division. Mr. Schliemann will be responsible for coordination between merchandising and sales activities and for marketing studies. In addition, he will supervise sales to all military post exchanges for Helene Curtis Industries, Inc.

He was formerly assistant director of Eastern operations for Helene Curtis Industries, Inc. Prior to that he was assistant director of operations and marketing service for Lentheric. Previous to four years in the United States Army, he was with The Bank of the Manhattan Company.

On Strong, Cobb Board

Harold F. Cummings has been elected to the board of directors of Strong, Cobb & Co., Inc.

HAROLD F. CUMMINGS

Thirty cosmetic chemists meet in the Roger Young Auditorium in Los Angeles to found the Los Angeles chapter of the Society of Cosmetic Chemists. An inaugural meeting has subsequently been held.

Ancient Antibiotics . . .

Strictly speaking, anything that destroys life is an antibiotic and these medieval weapons were undoubtedly very effective in their day.

You'll find nothing like them at Penick! But you will find the broadest range of the more conventional, modern antibiotics available from any single supplier! Since we sell in bulk only, serving makers of pharmaceuticals, cosmetics, veterinary medicines and animal feeds, we make and stock many of the antibiotics in regular commercial use.

Our diversified line simplifies your purchasing and better enables our experienced technical staff to assist you in developing effective combinations compatible with your formulations.

We will be glad to quote on your needs and to send samples of Penick antibiotics so you can judge their exceptional quality for yourself.

Of particular current interest . . .

NEOMYCIN BACITRACIN TYROTHRICIN GRAMICIDIN

Facilities are available for custom manufacturing in fermentation chemistry

PENICK

S. B. PENICK & COMPANY
50 CHURCH ST., NEW YORK 8 • 735 W. DIVISION ST., CHICAGO 10
Manufacturers of Fine Chemicals and Drugs

Charabot Publication

Charabot & Cie has published the first issue of a semiannual information booklet, "News of Grasse." An English translation accompanies the French text, which includes a biography of Eugene Charabot, founder of the company, an article on the constituents of costus, and two departments: "Perfumer's Corner," and "This and That."

Cut out of the front cover of the sixteen-page booklet is a double window through which can be seen a colored view of Grasse printed on the contents page.

Merck L. A. Distribution Ctr.

Merck & Co., Inc., has opened a new $600,000 distribution center at 6409 East Gayhart Street in East Los Angeles in order to provide improved service for Oregon, Washington, California, Montana, Arizona, Idaho, Utah, Nevada, New Mexico, and a portion of Texas.

Gen. Gavin V. P. of Little

Lieut Gen. James M. Gavin, USA (Ret.), has been elected vice-president and a director of Arthur D. Little, Inc., according to an announcement by Raymond Stevens, president of the company. General Gavin will assume his duties as an administrative officer of the company June 1 at Acorn Park, the ADL research center in West Cambridge Mass.

Lilly Names Talbott

Donald H. Talbott has been named manager of the milling and chemical warehousing departments at Eli Lilly and Company. Since 1956 he had been assistant manager of the raw materials handling department.

Named by Roche

James B. McQuilkin has been named sales manager of the Pacific Northwest Division of Roche Laboratories, Division of Hoffmann-La Roche Inc., it has been announced by Thomas Brown, general sales manager. Mr. McQuilkin will supervise sales representatives in Washington, Oregon, Montana and part of Idaho. He replaces Percy M. Wilde, who recently was named special hospital representative for Roche in Houston.

CSC Promotes Mohrman

Robert A. Mohrman has been named as assistant to Frank E. Maple, sales manager of the industrial chemicals department of Commercial Solvents Corporation. Mr. Mohrman has been a sales representative for industrial chemicals in the New York district since 1953 when he joined the company.

ROBERT A. MOHRMAN

Elect Carter to Ames Board

Dr. Kenneth Carter, vice president, has been elected to the board of directors, Ames Company, Inc.

Massengill Sales, Adv. Dir.

Appointed to the newly created position of director of sales and advertising for the S. E. Massengill Company is Frederick W. Blackburn, who recently was director of sales and advertising for the Lily

FREDERICK W. BLACKBURN

Tulip Company. Previously he had been sales manager and a member of the board of Ortho Pharmaceutical Corporation.

Dr. Geoffrey W. Rake

Dr. Geoffrey W. Rake, 53, scientific director of the International Division of Olin Mathieson Chemical Corporation, died April 20 at Princeton Hospital.

Born and educated in England, Dr. Rake worked at the Medical School of John Hopkins University in Baltimore, the Rockefeller Institute for Medical Research in New York, and the Connaught Laboratories of the University of Toronto prior to becoming head of the Squibb Institute for Medical Research in 1937.

He later became director of the institute and after the merger of Squibb and Olin Mathieson was named medical research consultant to the Squibb Division. In 1956 he became scientific director of the International Division.

Surviving are his wife, Helen; four sons, Adrian, Geoffrey, James, Neave; and two daughters, Juliet and Rosemary Jane.

Harold E. Smith

Harold E. Smith, chairman of the board of the Wallerstein Company, died suddenly April 5 at his home at Madison, N. J.

Mr. Smith joined the company as general manager of its Staten Island plant on July 1, 1928, was elected vice-president in charge of production in 1944, and five years later became executive vice-president. Following the death of Leo Wallerstein, Mr. Smith was elected president in 1955. This year he retired from this post to become chairman of the board. He was succeeded as president by Arthur C. Emelin.

Mr. Smith is survived by his widow, the former Clara Ewing Nehring.

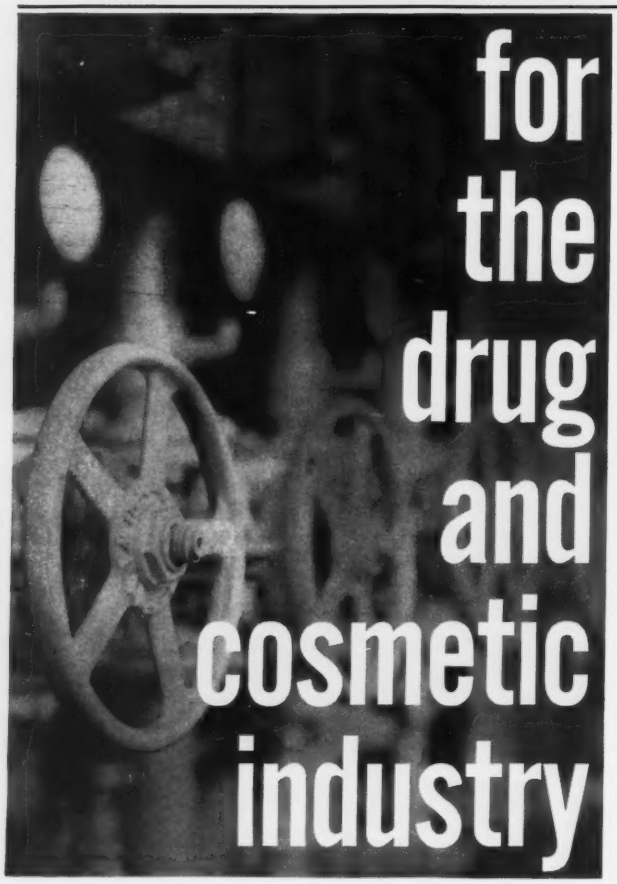
Horace G. Titus

Horace G. Titus, son of Helena Rubinstein, died April 18 at St. Clare's Hospital in New York of a heart attack. Mr. Titus was born in London in 1912. His father was Edward J. Titus, whom Madame Rubinstein married in 1908.

Educated at Yale and Oxford Universities, Mr. Titus devoted his time to painting for a few years following his formal education and subsequently entered his mother's firm as color consultant and advertising manager.

Surviving in addition to Mr. Titus' mother are a son, Barry, a daughter, Tobey, and a brother, Roy.

Plymouth
No. 220 U.S.P.
ZINC STEARATE
✓MOST "SLIP"
✓MOST "UNCTUOUS"
✓MOST "FREEDOM FROM BALLING"
The outstanding physical qualities of this grade are coupled with closely controlled chemical purity and stability! This is the Cosmetic grade Zinc Stearate!
PLYMOUTH
M. W. PARSONS-PLYMOUTH, Inc.
59 BEEKMAN STREET
NEW YORK, N. Y., U.S.A.
Telephone BEEKMAN 3-3162—3163—3164



CHEMICAL INTERMEDIATES
acetaldehyde
acetanilide
acetic anhydride
benzoquinone
isobutyraldehyde

STABILIZERS
Tenox antioxidants for Vitamin A and such oils and waxes as paraffin, mineral oil and lanolin

PLASTICIZERS
dimethyl phthalate
diethyl phthalate
di-isobutyl adipate

SOLVENTS
acetic acid
acetone
ethyl acetate
ethyl alcohol
isobutyl acetate
isobutyl alcohol
isopropyl acetate

HEMOSTATIC AGENT and ADSORBENT
oxidized cellulose

MISCELLANEOUS
triacetin
tributyrin

For samples of these Eastman chemicals, call or write our nearest sales office.

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; New York—260 Madison Ave.; Framingham, Mass.—65 Concord St.; Cincinnati—1813 Carew Tower; Cleveland—13212 Shaker Square; Chicago (Skokie)—4200 Dempster Ave.; St. Louis—10 S. Brentwood Blvd.; Houston—1300 Main St. **West Coast: Wilson Meyer Co.,** San Francisco—333 Montgomery St.; Los Angeles—2060 S. Garfield Ave.; Portland—520 S. W. 6th Ave.; Salt Lake City—73 S. Main St.; Seattle—821 2nd Ave.

Eastman CHEMICAL PRODUCTS, INC.
KINGSPORT, TENNESSEE, subsidiary of Eastman Kodak Company

American Distilled Oils

Produced at our Patchogue, Long Island, N.Y. Factory

OILS

BALSAM PERU	CITRONELLOL	OLIBANUM	PATCHOULY
CASCARILLA	CLOVE	OPOPONAX	PIMENTO
CELERY	GERANIOL	ORRIS LIQUID, Conc.	SANDALWOOD
	NUTMEG		STYRAX

also ***CITRAL*** • ***EUGENOL*** • ***LINALOOL*** • ***RHODINOL***

RESIN LIQUIDS

BALSAM PERU	CELERY	ORRIS
BALSAM TOLU	LABDANUM	STYRAX
BENZOIN	OLIBANUM	TONKA
	OPOPONAX	

Essential Oils • Aromatic Chemicals • Perfume Materials • Colors

70 *Years of continuous quality service — suppliers and manufacturers of*

Essential Oils • Aromatic Materials • Flavors • Colors

GEORGE LUEDERS & CO. NEW YORK GL REGISTERED TRADE MARK

GEORGE LUEDERS & CO.

427 WASHINGTON ST., NEW YORK 13, N. Y.

Chicago • San Francisco Montreal • Philadelphia • Toronto

Established 1885

Simplified Apparatus for "GERMFREE Life" Technics

American

FLEXIBLE FILM ISOLATOR

Developed in close cooperation with Lobund Institute, University of Notre Dame.

- Economical and easy to use.
- Maintains sterile environment.
- Provides complete visibility.
- Cannot develop negative pressure.

It is now economically practical for small laboratories and hospitals as well as the large research centers, to rear animals free of all microorganisms . . . thus establishing vastly improved experimental control.

Based upon the new concept permitted by the Flexible Film Isolator, American Sterilizer now provides complete facilities for Cesarean delivery, rearing, breeding, and working with germfree animals . . . including the Operating Chamber, Rearing Chamber, Animal Transfer Chamber, swabs and germicide.

Write for complete information—Bulletin IC-600.

AMERICAN STERILIZER
ERIE • PENNSYLVANIA

World's Largest Designer and Manufacturer of Sterilizers and Equipment for Biological Research

Management Forum

By FRANCIS CHILSON
INDUSTRIAL CONSULTANT

The Bible on Organization

Management or in other words administration is a difficult problem unless it is supported by a good organization structure. It is in fact impossible to have really good management without a sound supporting structure, unless the man at the top is one of those rare men who have enormous mental and physical capacity and who can remember everything and do everything about the businesses under their direction. Time has run out for these men because of the complexity of modern economics. There were never many of them anyway and usually they were the leaders of small or relatively simple businesses.

The modern administrator needs a good organization structure supporting him if he is to be effective. This is certainly a trite statement and it is an anomaly that such a statement can be made at all in view of the libraries that have been written on organization. But it is a fact that one seldom encounters a sound organization structure. I know five fairly sizable companies that have changed their organization patterns three different times in the last five years, simply because the people topside haven't the foggiest clue of what organization really means. They tend to confuse organization and management. One is simply a pattern; the other is a procedure. One is passive; the other active.

Yet the basis for a sound, workable and flexible organization is set forth in the Bible. *Exodus 21: 22.*

"And provide out of all the people able men, such as fear God, in whom there is truth, and that hate avarice, and appoint them rulers of thousands and of hundreds and of fifties and of tens.

"Who may judge the people at all times: and whenever any great matter soever shall fall out, let them refer it to thee, and let them judge the lesser matters only: so that it may be lighter for thee, the burden being shared out to others."

Thus spake Jethro, the kinsman of Moses, the first industrial consultant, who was amazed because Moses, having brought the Israelites out of bondage, spent an entire day listening to and judging his people in all matters great and small. "And the next day Moses sat to judge the people, who stood by Moses from morning until night."

Jethro, being a good industrial consultant, castigated Moses afterward for trying to run the whole show himself in every detail, thereby wasting his own strength and the time of all his people.

Jethro said: "The thing thou dost is not good. Thou are spent with *foolish labor* and this people that is with thee: *the business is above thy strength, thou alone canst not bear it.*"

There's the whole thing in a nutshell. Divide and subdivide the organization into logical, workable units. Place over each unit a man carefully selected for integrity, and capacity. Delegate responsibility to him and let him make all decisions except those of major importance—that is to say, those that would obviously affect more than one unit—and let these be referred to higher eschelons for action.

Much is said and written about the selection of candidates for supervisory positions. Much is done about training them. Then they are given jobs but no real responsibilities. The most fundamental of these: the right to spend budgeted funds within their orbits, is denied them. In some organizations even major division managers cannot make capital expenditures in excess of fifty dollars without prior approval by a finance committee. I regard the uninhibited right to spend company funds as a primary developer of good judgment and a developer of a sense of responsibility without which no one can ever become a capable executive.

I am aware of the fact that there is much to be said for both sides. The financial people, the controllers, insist that unless a rigid limit is placed on the amount

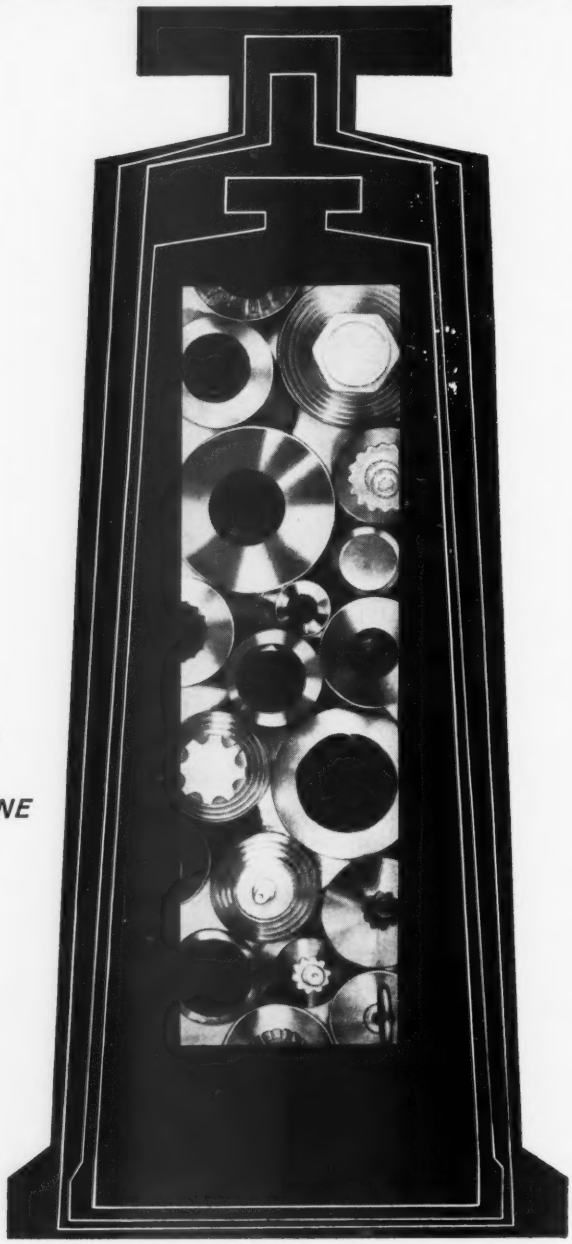
Selecting the right container—the vital step in modern marketing—is your product insurance ■ Why not adopt the policy of many leading manufacturers—select Sheffield Process Tubes ■ Hundreds of America's best selling products—medicinal, drug and cosmetic, industrial and household—are selling better because they are properly contained in the modern, convenient safety of smart looking Sheffield collapsible metal tubes ■ You pay no premium for Sheffield's vast experience (more than a century) and complete facilities for tube packaging ■ Without obligation, discuss every phase of your packaging problem with a packaging expert—the man from Sheffield ■ Write for samples, catalog ■ THE SHEFFIELD TUBE CORP. ■ Home office: New London, Conn., Sales offices: New York, Chicago, Los Angeles

Sheffield Tubes

FOR MANY PRODUCTS

THERE IS ONLY ONE

PROPER CONTAINER



STOP PRODUCT WASTE—USE METAL TUBES!

of money executives can spend without authorization, they will spend their heads off.

There is something to be said for their view. There are engineers whose native tendency is to over-engineer everything; they would build an Eiffel Tower to hold up a flag pole unless they were double checked. And there are plant managers who are unable to see the relationship of sales, budgets, taxes and timing. But to me this simply means that the first principle of building an organization has been violated:—the selection of the right men for the right places. Jethro made that clear to Moses thousands of years ago as a first step: "Provide out of *all* the people *able* men." Then "Let them judge the lesser matters only."

One Picture = 10,000 Words

If I had to do my engineering over again the first thing I'd learn would be how to draw free hand as an architect does. The powers that be are frequently non technical men. They cannot read blue prints and even when they approve a set up, whether it is a new building or a new mechanical layout, they later will, if anything however trivial displeases them, deny they ever approved the layout at all. When you confront them with approved drawings or minutes they will tell you, "Well, ok, we did approve the layout but this isn't how we thought it was going to be."

The architect has it all over the engineers in making three dimensional drawings in black and white or in colors. Very often he overdraws and the finished product is by no means as good looking as the drawing. The architect always includes beautiful landscaping which emphasizes the architectural aspects of the proposed building. But the proportions in the drawing indicate that the specimen trees in the landscape plan are fifty year old trees and not the little saplings that actually will be planted. So when the job is done Mr. Big is still dissatisfied. He didn't get what he thought he was getting.

This very thing happened recently on one of my jobs. The architect wanted to make a basic change in the office section that would change the entire structure and cost a fortune. Of course the boss was given a lot of specious reasons why the change was a decided improvement and was told further as the client always is that "The changes will not cost very much extra." And he was shown a gaudy picture to illustrate how much better the new plan would look as compared with the old.

When I discovered what had been done it was too late to stop the project. Plans had been redrawn and the steel was actually being erected when I arrived on the scene. I escorted the president through the area and told him that the changes would cost not less than a quarter million dollars extra and the change would serve no useful purpose anyway. He blew his stack and vehemently denied he had ever approved the changes. I had my engineering colleague exhibit the minutes of the building committee meeting where Mr. Big did authorize the changes. He bought the picture but rebelled against paying for it.

New Management Fad

Motivation Research is another new management fad upon which millions are being wasted. The great discoveries made by motivation research practitioners that I have read about could have been made by anybody with common sense without any research at all. The discoveries were probably made long before by the particular marketing staffs involved but because they ran counter to old established practices traditions and prejudices they couldn't sell their own managements. But along comes a guy from the outside with a new catch word, a new approach and a high price and the management grabs the bait like a hungry trout.

Another expensive gimmick is "subliminal advertising" which involves dinning an advertising message directly into the subconscious either when people are asleep or when they are concentrating on television or the movies. Nothing new about this except the catch phrase name. During the war the RAF used recordings to train fighter pilots while they slept. The recordings described a situation that would confront them in combat and gave the correct response to meet it. The following morning the instructor would pose the problem and asked the trainees how they would meet it. Invariably the majority would give the answer that had been dinned into them while they slept.

I have invented a new—and expensive—psychotechnique which I have named Accelerated Reaction. I have no idea what reactions I may be called upon to accelerate. I am waiting for some sucker to pay me $50,000.00 to find out. The "psychotechnique" is a honey of a word. I coined it or think I did because I couldn't find it in the dictionary. Anyway I will throw it in for nothing as soon as any of you hire me to accelerate your reactions. But send me the money first. Research is expensive.

Recession Relief

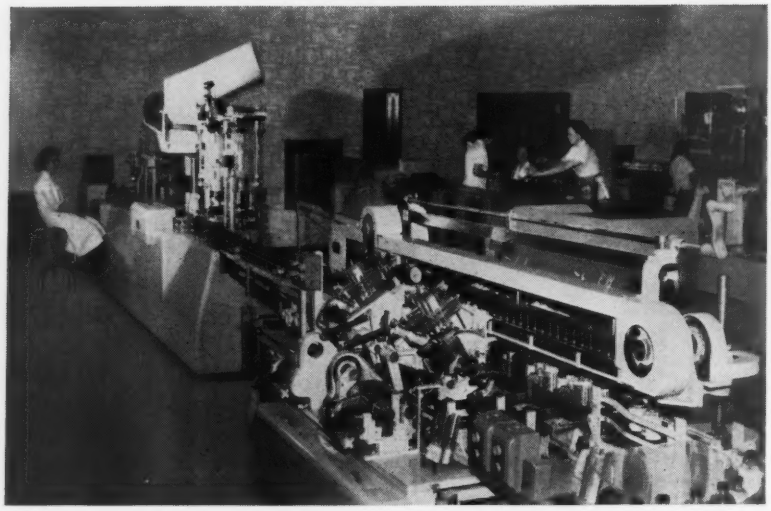
The plans to relieve the recession advocated by the President and the Congress would be laughable if they did not indicate an extraordinary degree of implied panic in the face of increasing communist pressure. Billions for roads! Let's have more roads! We haven't spent the billions already appropriated for roads in the past years and in any case the design and surveying and property condemnations required in the preliminary stages of road building takes years before the bulldozers move in, and, when they do move in not many men are required to operate them or the other gigantic road building equip-

Famous pharmaceutical maintains commanding position

Advertisement

LISTERINE'S SUCCESS LIES IN CONSTANT UP-DATING OF PROMOTION AND PRODUCTION

- Pneumatic packaging equipment one example



High speed Pneumatic bottling line in operation at Lambert-Hudnut plant.

The promotional imagination and genius displayed in the fabulous success story of Listerine's ascent to a position of dominant leadership as a personal antiseptic has become one of the great legends of American business.

Listerine's marketing ingenuity and skill have been obvious. Less obvious, perhaps, has been the part that production methods and plant efficiency have played in making possible the maintenance of satisfactory cost and profit margins.

Part of Listerine's master plan has been constant modernization and unrelenting elimination of obsolescence. The new Lambert-Hudnut plant in Lititz, Pennsylvania, where Listerine is now produced, is an example. Here, where the most up-to-the-minute facilities prevail, Listerine operates a number of Pneumatic machines including a bottling line for the automatic cleaning, filling, capping and labeling of the three sizes of Listerine containers — three ounce, seven ounce and fourteen ounce.

This Pneumatic hook-up handles the tremendous Listerine daily production with impressive ease, and with a "lower cost per container" efficiency that has made Pneumatic equipment first choice of the leading producers in pharmaceuticals, foods, liquors, soaps, cosmetics and chemicals, to mention a few.

Early Listerine Advertisement

When you have packaging or bottling equipment on your mind, Pneumatic is the name to remember.

PNEUMATIC SCALE CORP., LTD., 70 Newport Ave., Quincy 71, Mass. *Also New York; Chicago; Dallas; San Francisco; Los Angeles; Seattle; Leeds, England.* Subsidiaries: *Delamere & Williams Company, Ltd., Toronto; Carbert Mfg. Co. Inc., Cambridge, Massachusetts.*

PNEUMATIC

ment used in modern road construction.

My own pet suggestion is to eliminate the capital gains tax. There are hundreds of thousands of people who have substantial capital gains in property or old investments. Although they might like to sell such properties in order to diversify their holdings they cannot because, on the one hand they may not have any capital losses to offset against the gains, and on the other, they do not relish the idea of Uncle Sam clipping them for 25 per cent of their gains. In spite of her financial difficulties, England has never had a capital gains tax and is doing very well without it. People who have capital gains would reinvest their money in more new ventures or in purchases of one kind or another—if only Uncle Sam didn't take such a bite out of the profits. Actually it would improve the government's tax position because it would eliminate the practice of big speculators offsetting large losses against capital gains.

In a large view recessions are caused by inadequate and inaccurate production planning on a national scale. When inventories accumulate there must be cut backs and we proceed to terminate the earning capacity of the very people who are our customers. It's a silly circle: from recession to depression to prosperity. All because our information regarding the amount of goods of every kind that our economy can absorb, is inadequate, incomplete and inaccurate. I suppose in a democracy it will always be that way. When groups of competitors in the same industry get together to regulate over-production, they are accused by the government of violation of the anti-trust laws. Perhaps all industry should be shut down for the whole of December every year to allow surplus inventories to be used up and to be able to get a focus on what's ahead.

Our experience in the recession so far has shown that the high pressure advertising advocated by the agencies isn't so hot after all. When people get fed up with getting a rooking as they have been when buying automobiles, they simply stop buying in spite of the Madison Avenue Boys. Nobody wants to make a decent price cut; nobody wants to maintain high labor productivity; nobody wants to take a salary or wage or dividend cut. Unless somebody makes some intelligent moves quickly we'll all be on our way to the bottom on the same toboggan.

New Colton High Speed Machine Fills and Seals Plastic Tubes

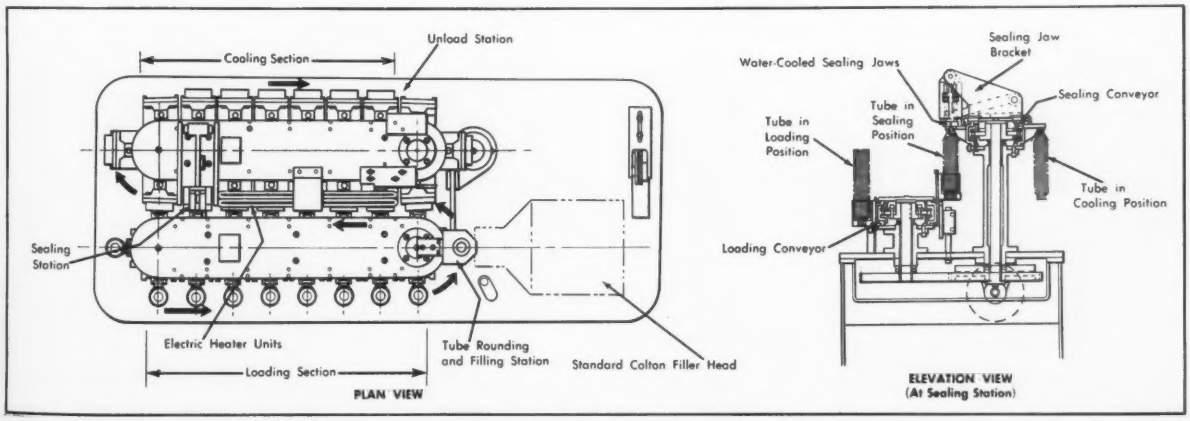
A new Model 172 high speed Colton machine that fills plastic tubes with paste, cream or liquid materials and seals them in an automatic cycle is now available from Arthur Colton Company, 3400 E. Lafayette, Detroit 7. The new machine will fill and seal either standard or heavy-wall polyethylene tubes at rates up to 120-tubes per minute.

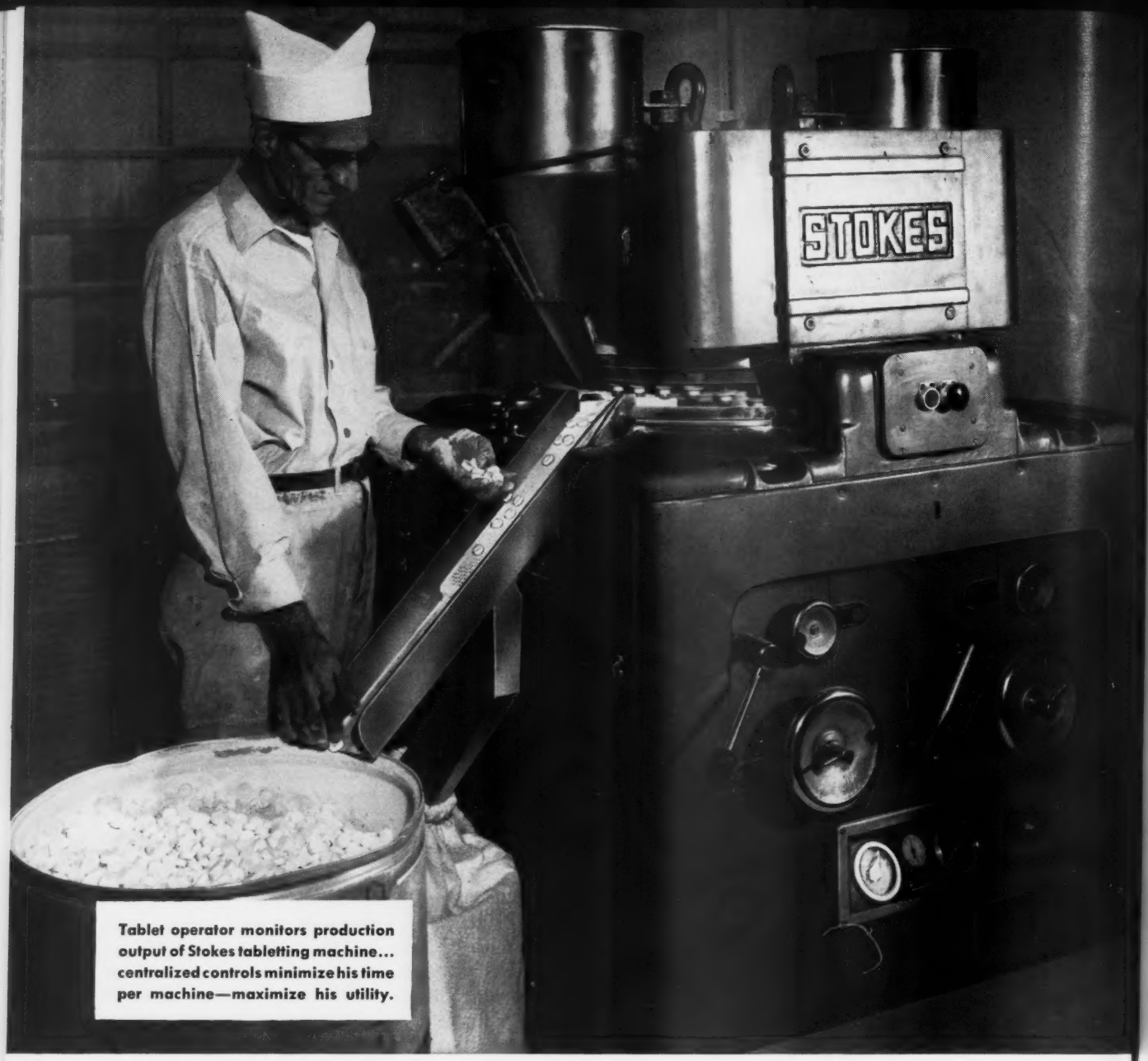
Tubes up to 1-in. dia. and 7-7/8 long can be filled at the 120 per minute rate in twin filling applications. Tubes up to 2-in. dia. and 7-7/8-in. long can be single-filled at a 60-tube per minute rate. Maximum fill capacity of the filler is 8 fluid ounces. Present Colton Model 17TF or 175 Filler heads can be adapted for use on this machine. Affording savings to manufacturers converting to plastic filling applications.

Basically the machine consists of two conveyors, a filling unit, a heating unit and a sealing unit. Flow of tubes is from the loading section to the filling station. After filling, the tubes are transferred to the sealing conveyor where they move through electric heater units, a sealing station, a cooling section and are automatically unloaded.

Manual loading of the empty plastic tubes into the loading section is done in eight stations at the front of the machine. At the filling station, the tubes are raised to enter a shaping device where they are rounded out and seated before filling. After filling, the tubes are preclosed and passed under electric heaters where a preselected tube projection is made. While molten, the tubes are passed through a sealing station where water-cooled jaws compress the end to form a tight seal. Coding type can be put on the sealing jaws if desired. (*Continued on page 655*)

Flow of the plastic through loading, filling, sealing, and cooling sections of Colton's new Model 172.

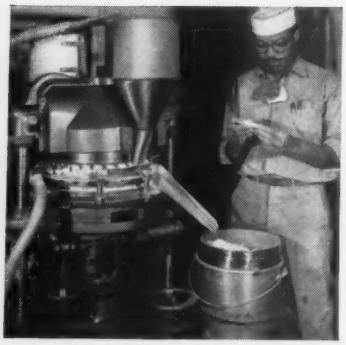




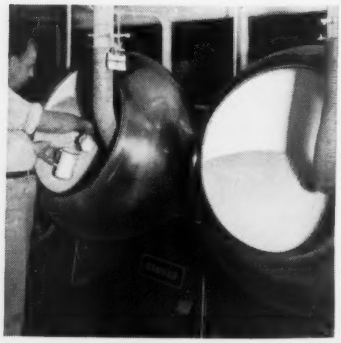
Tablet operator monitors production output of Stokes tabletting machine... centralized controls minimize his time per machine—maximize his utility.

Other Stokes equipment at work for Wyeth...

Two Stokes Model 566 Multi-layer Tabletting Machines press 2 and 3 layer tablets to perfection. Pre-compressed layers permit periodic weight checks . . . create clean, sharp layers.

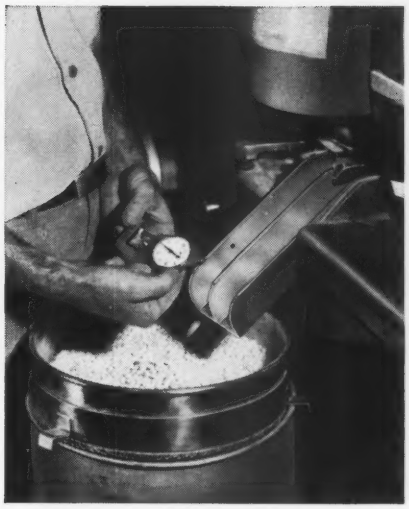


Many of Wyeth's earlier machines were Stokes BB-2 rotary tabletting machines. Wyeth's excellent preventative maintenance program keeps these and other equipment in top operating condition at all times.



In the finishing section, a battery of Stokes Coating and Polishing machines are in continuous service. Here, cores are coated with a palatable neutralizing agent — colored for tablet potency identification.

In all drugs, accuracy of the dosage is critical. At Wyeth, tablets are carefully checked for size. The precision of Stokes tabletting equipment aids in adherence to close tolerances.



Wyeth produces many products in Stokes-equipped tabletting department

Wyeth Laboratories, a division of American Home Products Corporation, operates a large tabletting department at their Washington Avenue plant in Philadelphia. Nearly every machine connected with the production of tablets of all types bears the name Stokes.

One of the largest single production items in this plant is a tablet produced in 4 physical sizes, at 5 strengths, using a bank of Stokes Model 533's. These tablets are then sealed, color coated, and polished on a large bank of Stokes Pan Coaters and Polishers located in an adjoining area.

The primary requirement in this operation is exact control of tablet size and weight. The precise engineering in both design and construction of the Stokes 533 assures dependable control of both. N. R. Brenner, Plant Superintendent, and F. D. Koup, Tabletting Department Manager both agree that the Stokes Model 533 high speed press is excellent for tabletting operations—"giving us the quality we want—in the quantity we want."

The Stokes Model 533 occupies little floor space. Operating costs are lower because the press requires so very little attention. Pressurized lubrication is continuous and completely automatic. Centralized controls and easy access enable fast and accurate set-up, adjustment and changeover.

Find out how the new Stokes Rotary Tabletting Machines can save on your own production runs. Write for Bulletin 650—or call your nearest Stokes office.

Pharmaceutical Equipment Division
F. J. STOKES CORPORATION
5500 Tabor Road, Philadelphia 20, Pa.

STOKES

STREAM DROP SPRAY OR FOAM PRECISION VALVES TOP THEM ALL!

If your product is liquid or viscous, Precision has the know-how and experience to help you package it in a pressurized container that will dispense it conveniently in a stream, a drop, a spray or foam. The sales record of pressurized products prove that *your* product might well make use of this new and profitable "package." Precision engineers will be happy to contribute their knowledge to help you ... there's no obligation, of course.

PRECISION

Precision Valve Corporation

700 NEPPERHAN AVENUE • YONKERS 3, NEW YORK

The single-fill model is powered by a 1½-hp motor. It has 18 stations and a 15-gallon hopper. The twin-fill model has 36 stations, a 1½-hp motor drive and a 15-gallon hopper. Optional extra equipment for either type of machine includes tube cleaner, stirring device, water-jacketed hopper, no-fill device for the single fill machine, and coding jaws.

Saga Tube Filler Innovations

The A & M Tool & Die Co., Inc., of Southbridge, Mass. has announced through its Saga Packaging Machinery Division two new high-speed Saga models that feature a number of innovations.

Besides faster output, the new models have vacuum-cleaning units that remove any trace of lint or dust from the tubes, prior to filling. A destaticizing bar frees the tubes from static electricity characteristic of polyethylene, and improves the cleaning action.

Another new feature is a refrigerated-air cooling station through which the tubes are carried just after the crimping jaws have set the molten plastic.

Improved efficiency is obtained by another device that stops the filling action if there are no tubes in the holders beneath the hopper.

The new Saga comes in 11- and 22-station models, with output under single fill conditions of 35 to 40 tubes a minute on the smaller model and 60 a minute on the larger model. Set up for double filling, the 22-station model can turn out 120 filled tubes a minute. According to the manufacturer, this rate of fill is a substantial increase over any previous model.

The new Saga was designed by A & M in co-operation with engineers of the Bradley Container Corporation of Maynard, Mass. While specifically constructed for filling Bracon packages, the A & M announcement said, the machine is adaptable for similar operations with metal tubes and other containers.

Inkless Imprinting Attachment for Wrapper

A new attachment for wrapping, bundling, pouch and bag-making machines, designed for inkless imprinting of code-dates, prices and other copy on wax paper and other "hard-to-print" packaging materials, has been developed by Adolph Gottscho, Inc., Hillside, N. J. Compact and light in weight, the unit can be attached to a packaging machine in vertical, horizontal or upside down positions.

The new "Wrap-A-Printa" attachment makes use of inexpensive roll leaf instead of inks. This assures sharp and rub-proof imprints, and eliminates ink drying problems on wax paper, polyethylene, cellophane, coated foil and similar materials in high-speed production operations, according to Gottscho. The roll leaf is available in black, white, yellow, red, blue, green and other colors.

"Wrap-A-Printa" is fully automatic in operation and requires only a single simple adjustment to accurately register imprints on any part of the package. Copy changes are said to be easily made with metal type or dies.

New Gisholt Sealamatic

Considerable interest was shown in a new Gisholt development, the Sealamatic "85", during its first public showing at the Packaging Machinery & Materials Exposition of 1958, in Atlantic City. The basic design of the Sealamatic "85" represents an entirely new approach to the problems of handling and applying of cellulose neck band seals. In addition, the machine incorporates all the proven features of the larger, Sealamatic "150" which has, to date, applied well over a billion bands in the spirits, wine and food industries. The new Sealamatic "85" will find wide application in these fields as well as in the chemical and drug industries.

When arranged to handle pre-cut bands, the operation is as follows: Bands are manually loaded in a vibrating magazine, inclined at an angle so that gravity moves them against a vacuum block at the base. A geared, indexing head carries two band pick-up and applying mechanisms. While one band is removed from the magazine, another is applied on the neck of a bottle 180 degrees away. In an entirely mechanical operation, the vacuum block is raised, stripping the foremost band from the magazine, moving it where it can be speared by the pick-up mechanisms. As the head indexes, the band is opened, a mandrel inserted, and when it is directly over the bottle, the band is stripped off the mandrel, on to the bottle neck.

Basic machine features include ability to handle: Any type of glass capable of traveling upright on a 6-⅜" conveyor in sizes ranging from small vials to gallon jugs; orienting or non-orienting type glass, tall or short, with bands up to 65mm X 65mm applied on small or large-mouth glass. Line speeds are instantly adjustable up to 85 bottles per minute. Gearing is designed to provide a smooth, even flow of bottles through the machine, with no jerks, rough starts or stops. Pre-cut bands are loaded or changed with stopping the machine. When the bottle supply stops, no bands are removed. Changeover is especially fast . . . 5 minutes for any type glass . . . and only 15 minutes for any band change.

All moving parts are well-guarded. There are safety clutches on all bottle handling and band applying mechanisms to stop the machine automatically in case of trouble. Totally-enclosed gear cases, precision bearings and a well-planned lubrication system assures top performance and long service life with minimum attention.

Simple machine accessories include a bottle spotting unit on the intake end to handle either recessed- or extended-lug glass assuring exact alignment of the neck band with the bottle label and/or strip stamp.

A new catalog with complete information on the Sealamatic "85" and the other machines in the Gisholt Packaging Line is available. Write directly to. . . Gisholt Machine Company, Packaging Machinery Department, Madison 10, Wis.

You'll never know HOW MUCH FOREIGN MATTER THERE CAN BE IN NEW CONTAINERS UNTIL A Sanitair AUTOMATIC AIR CLEANER proves it to you!

Air Cleaning Protects Against Failure of Aerosol Valves

THE CATCH WILL AMAZE YOU

A GOOD PRODUCT Deserves a Clean Container
for Chemical Safeguards . . . for Product Uniformity!

YEAR AFTER YEAR more packaging engineers, who had considered container cleaning unnecessary, become its greatest boosters. They will tell you that air cleaning is indispensable to quality control.

Once the completely automatic Sanitair Air Cleaner is synchronized into the packaging line, its operation is entirely automatic. Handles all size container openings with quick changeover for container sizes.

Most widely used automatic air cleaner. Does a thorough job . . . at high speed . . . in small space . . . at low operating cost. For complete information, write for the "Sanitair Bulletin."

For rinsing any size or shape bottles or jars; ounces to gallons. Cleans both insides and outsides of containers: water, steam or air. For details, write for the "Rotary Rinser Bulletin."

Semi-automatic. For air cleaning new containers of any size or type. Containers are inverted over the air valves, two at a time, up to 40 per minute. Easy, fast, efficient. Positively removes all loose lint, dust, etc. Write for "E-Z Bulletin."

U. S. BOTTLERS MACHINERY CO.
4013 N. ROCKWELL STREET CHICAGO 18, ILLINOIS
BOSTON • NEW YORK • PHILADELPHIA • LOS ANGELES SAN FRANCISCO • SEATTLE • DENVER • PORTLAND, ORE.
OGDEN • KANSAS CITY • TUCSON • JACKSON, MISS. ATLANTA • MONTREAL • TORONTO • VANCOUVER
WINNIPEG • TOLEDO (export) SANTIAGO • SAO PAULO • HONOLULU

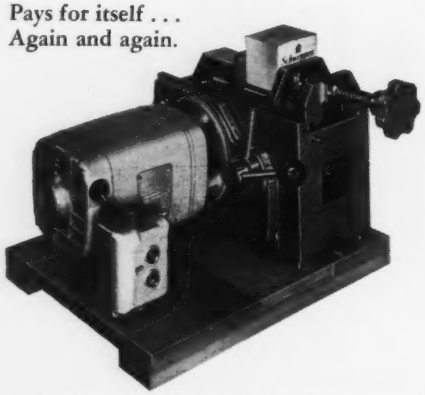
SPECIALISTS IN LIQUID FILLING AND CONTAINER CLEANING EQUIPMENT

CODEDGE

CODES AND DATES
2000 LABELS PER MINUTE!

. . . . *All Shapes* *All Sizes*
Evidences Positive Product Control
Saves Labor • Time • Money
Costs Almost Nothing to Operate
No Service Problem!

Pays for itself . . .
Again and again.



Booth 907—AMA Natl. Packg. EXPOSITION
New York COLISEUM — May 26-30, 1958

Write Today
for details. Learn how CODEDGE can economically solve YOUR coding problems!

GRIFFIN-RUTGERS, INC.
Dept. DC4, 41 East 42 Street, New York 17, N. Y.

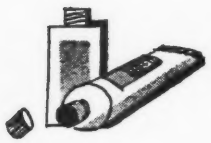
FASTER GRANULATION with abbé ROTARY CUTTER

. . . of
• BARKS
• CHARCOAL
• CHEMICALS
• DRUGS
• FIBERS
• GUMS
• HERBS
• LEAVES
• ROOTS
• SHAVINGS

Compact, rugged Abbé Rotary Cutter, with perfect shearing action, ideal for fast, uniform cutting, shredding or granulating material to any desired particle size—with minimum "fines" and low power cost. Ample screen area permits quick removal of finished product. Quick opening of casing and screen cradle permits easy cleaning and adjustment. Available in 6 sizes with any desired drive.

Write for Bulletin No. 74
Address Department 54

abbé ENGINEERING CO. 50 CHURCH ST. NEW YORK 7, N. Y.
Designers and Manufacturers of
Ball, Pebble and Jar Mills • Pulverizers • Sifters • Cutters • Mixers



Advancing Therapy

Peptic Ulcer Therapy

The complete elimination of hydrochloric acid would abolish peptic ulcer according to J. B. Kirsner, reviewing the subject (*J.A.M.A.* 166:-1727, 1958), regardless of tissue susceptibility and other possible etiological factors. However, no method, pharmacological, medical, or surgical, except total gastrectomy, consistently produces complete and permanent anacidity; hence, no procedure per se regularly cures the disease. Therapy emphasizes the effective neutralization or inhibition of hydrochloric acid and concurrent elimination of peptic activity. The clinical objectives are relief of pain, complete healing of the ulcer, and prevention of complications and recurrences. Because of the natural tendency to healing and recurrence, accurate evaluation of treatment in peptic ulcer requires prolonged and well-controlled observation for at least two years and preferably longer. Restriction of food does not necessarily cure peptic ulcer. On the other hand, disregard of dietary considerations neglects a useful means of relieving distress, for certain foods may irritate the gastroduodenal mucosa and contribute to ulcer pain.

The dietary management of peptic ulcer emphasizes frequent feedings of bland foods, avoids mechanical, chemical, or thermal irritants, provides adequate amounts of proteins, carbohydrates, calories, minerals, and vitamins, and assists in the neutralizing and buffering of the gastric contents.

Antacids.—The purpose of antacid therapy is constant neutralization of the acid gastric content. The ideal antacid theoretically should possess these advantages: prolonged, effective neutralization when administered orally in acceptable amounts, absence of subsequent stimulation of secretion, no untoward systemic effects such as alkalosis, no cathartic or constipating action, no interference with digestive or absorptive processes, palatability, and low cost. These qualities each are desirable, but they are not of equal importance. Serious toxic effects would obviate the usefulness of an otherwise potent antacid. The absence of constipation or diarrhea is of secondary clinical value when there is little or no neutralizing action. Effective neutralization is maintenance of the pH of the gastric content between 4.0 and 5.0, or higher; at this hydrogen ion concentration, acid and peptic activity are practically absent. On the other hand, peptic ulcer probably heals with less complete control of gastric acidity.

The ideal antacid thus far has not been developed. Neutralizing efficiency in patients with duodenal ulcer is limited by the excessive rate of gastric secretion and by the rate of gastric emptying. On the other hand, antacids neutralize hydrochloric acid at least partially, relieving pain and facilitating healing. Many preparations are available. The most potent compound probably is calcium carbonate. The principal disadvantage is constipation, especially in older patients; this usually can be corrected by substitution of the more laxative magnesium carbonate in amounts required by the individual patient.

Therapy with milk and calcium carbonate may be complicated infrequently by the hypercalcemic syndrome.

Combinations of calcium carbonate with glycine or calcium caseinate do not appear to offer special neutralizing advantages. Magnesium carbonate and magnesium oxide are potent antacids; because of their laxative effect, they are prescribed chiefly to counteract the constipating action of the ulcer regimen. Tribasic calcium phosphate, tribasic magnesium phosphate, magnesium trisilicate, magnesium hydroxide, magnesium tartrate, calcium tartrate, and dihydroxyaluminum sodium carbonate neutralize gastric acidity in varying degrees. Aluminum hydroxide, aluminum phosphate, and basic aluminum carbonate taken alone in liquid or gel form and in various mixtures, partially neutralize gastric acidity. Their capacity to inactivate pepsin in vivo seems no greater than that of calcium carbonate; the astringent, demulcent, and coating properties attributed to them are not susceptible to scientific measurement in man. Aluminum hydroxide increases the excretion of phosphate in the feces; however, the serum electrolytes are not altered. The constipating effect of aluminum hydroxide may be counteracted with administration of magnesium trisilicate or magnesium hydroxide. Hydrated sodium aluminum silicate, "nonreactive" aluminum hydroxide, and dihydroxyaluminum aminoacetate do not appear to offer any special advantages.

Anion exchange resins, such as polyaminemethylene resin, are large insoluble bases with the capacity to absorb the anion of an acid, forming an insoluble resin salt. In alkaline intestinal contents the anion exchange is reversed, and the resin is restored to its original state. Various resins, alone or in combination with antacids, are available; they may lower gastric acidity partially in man. Bismuth salts and hog gastric mucin have no neutralizing value. Sodium carboxymethylcellulose, alone or in combination, does not offer any special advantages. Protein hydrolysates given orally may decrease acidity temporarily, but not impressively. The antacid effect of sodium bicarbonate is pronounced but transient; it is not prescribed because of the possibility of alkalosis when taken in large quantities, especially in patients with impaired

renal function.

In addition to powders and liquids or gels, some antacids are available also as tablets; these preparations contain aluminum, hydroxide, magnesium trisilicate calcium carbonate, magnesium oxide, or magnesium carbonate, alone, in various quantities and mixtures, or combined with resins, milk proteins, and vitamins. Antacid tablets are inferior to powdered or liquid preparations because of the smaller amounts entering into the reaction with hydrochloric acid; however, rapidly disintegrating tablets may obviate this difficulty. Their principal usefulness is as adjunct antacid medication taken away from home or at work, and their effectiveness is dependent upon adequate dosage.

Antacids act locally upon the gastric contents; since they do not influence the acid-secreting cells, their neutralizing effect is temporary and disappears when the medicament is discontinued. Since the healing time of peptic ulcer may be prolonged and since ulcers often recur, antacid therapy must be prolonged.

Gastric Antisecretory Compounds.—Diet and antacids do not control gastric acidity in peptic ulcer completely or continuously based upon the theoretical possibility of prolonged suppression of acid secretion, permitting a more liberal program. Most anticholinergic drugs also inhibit gastrointestinal motility and diminish muscle spasm. However, this effect, although it may contribute to the relief of abdominal pain, is not essential to the healing of peptic ulcer.

Average doses of tincture or powdered extract of belladonna do not inhibit acid secretion significantly in patients with peptic ulcer. Atropine sulfate is partially effective. Systemic manifestations of parasympathetic inhibition are frequent with dosages sufficient to inhibit gastric secretion in man. The chief usefulness of atropine and similar compounds in ulcer therapy may be to delay gastric emptying, permitting a longer period of interaction between acid and antacid. Synthetic atropine substitutes, including amprotropine phosphate, homatropine methylbromide, adiphenine hydrochloride, dibutoline sulfate, and dicyclomine hydrochloride, are less effective than atropine. The quaternary ammonium compounds, tetraethylammonium chloride or tetraethylammonium bromide, administered parenterally, and hexamethonium salts, prescribed orally, may inhibit acid temporarily. However, these drugs cause disturbing side-effects.

Methantheline bromide temporarily suppresses gastric acidity when injected intramuscularly. The antisecretory effect after oral administration is less impressive. Single oral doses of methantheline bromide may lower the volume of secretion; however, the concentration of hydrochloric acid remains unchanged. Peptic ulcer may recur during the use of methantheline bromide; patients occasionally appear to develop a tolerance to the medication. The antisecretory effect of diphemanil methylsulfate resembles that of methantheline bromide. However, side-effects are less frequent.

No single anticholinergic compound excels in gastric inhibitory capacity, clinical tolerance, and therapeutic value, although several appear to be more effective than the majority; these include methscopolamine, propantheline, penthienate, homatropine, hexocyclium, and several additional compounds now under study. In general, the drugs that lower acidity most effectively also tend to produce dryness of the mouth, blurring of vision, constipation, slowing of the urinary stream, headache, drowsiness, heartburn, tachycardia, choking sensation, and mental confusion.

The ideal gastric antisecretory agent, suppressing acidity for long periods of time after oral administration, without development of tolerance and with minimal or no side-effects thus remains to be synthesized.

Ineffective Compounds. — The available antihistaminic compounds do not lower gastric acidity significantly in man and are of no value in the treatment of peptic ulcer. Endocrine preparations, including parathyroid extract, posterior pituitary extract, enterogastrone, urogastrone, sex hormones, and desoxycorticosterone acetate, do not reduce gastric acidity significantly in patients with duodenal ulcer.

In the absence of a specific cure, the number of alleged ulcer remedies remains enormous. Many have been discredited. Current evidence indicates that the following substances also should be discarded for this purpose: detergents such as sodium alkyl sulfate; urea-formaldehyde resins, thixotropic gels, bile salts, histidine, extracts of pregnant mares' urine, extracts of animal stomach, duodenum, and colon, chlorophyll, and cabbage juice. Surface-coating agents that theoretically protect the ulcer from hydrochloric acid, such as emulsified dimethylpolysiloxanes, have not been developed for clinical use.

Physical and Emotional Stress.—The admonition to treat the patient as well as his ulcer is not a trite remark. Excessive physical fatigue and prolonged emotional stress may increase the secretion of hydrochloric acid and the susceptibility of the gastroduodenal mucosa to injury. Mild sedation with phenobarbital promotes relaxation and rest; sedatives at night are useful in ensuring an adequate amount of sleep. "Tranquilizing" drugs also are prescribed for this purpose, alone or combined with anticholinergic medication. They are useful in occasional patients but do not appear to have any special advantages in ulcer therapy. Chlorpromazine hydrochloride given in large amounts may decrease gastric secretion; on the other hand, large doses of reserpine given orally may increase the output of hydrochloric acid.

Nebralin (Smith-Dorsey) is a timed-release tablet combination containing 90 mg. of pentobarbital and 425 mg. of mephenesin, supplied in bottles of 50 tablets.

Fedrazil (Burroughs Wellcome) contains in each sugar-coated tablet 30 mg. of pseudo ephedrine hydrochloride as an orally effective nasal decongestant and 25 mg. of chlorcyclizine hydrochloride, a long-acting antihistamine.

Sinaxar (Armour) is a new muscle relaxant. Each tablet contains 200 mg. of a new chemical compound, 2-hydroxy-2-phenylethyl carbamate, available in bottles of 50 tablets.

Visine Eye Drops (Pfizer) is a sterile, stable isotonic solution containing 0.05 per cent of tetrahydrozoline hydrochloride to provide prompt and lasting relief from eye irritation and fatigue. It is available as an over-the-counter product in one-half ounce bottles with a soft plastic dropper.

TRITON X-200

Shampoo it extra clean...rinse it extra bright

She's using a cream shampoo with a TRITON X-200 base. Readily soluble in both hot and cold water, this anionic sulfonate provides good detergency and lathering action . . . works even in hard waters . . . promotes clear rinsing. And a little TRITON X-200 goes a long way in your cream shampoo formulations.

Next, she uses an after-shampoo cream rinse containing TRITON X-400 . . . look at the results. Soft, lustrous hair that's completely free of soap film, lubricated without grease. Because this cationic quaternary ammonium compound reduces static electricity, her hair is more manageable, easier to comb.

Try TRITON X-200 and TRITON X-400 in your own formulations. Write for samples and full details . . . or ask for formulating help from our experienced laboratory men.

Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

TRITON is a trade-mark, Reg. U.S. Pat. Off. and in principal foreign countries.

TRITON X-400

Perfumer's Shelf

Subliminal Flavoring

My friend Ed Morrish of Firmenich invented the term "subliminal flavoring" while we were discussing the flavoring of all tablets, not merely a few selected ones. This perfectly expresses the intent of the discussion —the minimal flavoring of tablets so that they leave an indefinable pleasant sensation in the mouth.

In pediatric preparations or in tablets that must be sucked or chewed, the need for flavoring is obvious and sometimes belabored. The usual tablet that is quickly swallowed with or without water is almost never flavored in the belief that no taste sensation need be considered. This is not true, since there is always at least fleeting sourness, bitterness, astringency or chalkiness as the tablet momentarily comes in contact with the mucous membrane.

The suggestion is a simple one: include in *every* uncoated tablet a little sweetening and a little flavor so that the memory left by the tablet, no matter what its medical effectiveness, will be a pleasant one.

Purple Lilac

Purple Lilacs differ from the white—and not merely in color: their scent is of a far heavier character as pointed out in a discussion by C. Farmiloe (*S.P.C.* 31:374, 1958). Indole appears to be present, and not necessarily in conjunction with benzyl acetate, for this flower scent is by no means fruity or cloying. Indole and Phenylethyl Alcohol make a good starting-point for simulating its odor, together with Hydroxcitronellal and some of the Carbinols: dimethyl - benzyl, dimethyl - phenyl and dimethyl phenylethyl carbinols, for example. Other conventional odorants will be found in the standard reference works. Tetraquinone (tetrahydro-p-methyl quinoline) may be useful.

Natural Tuberose Absolute helps considerably to give extracts the warm, heavy and rather rich quality which is shared by the flower. A soft Hyacinth, incorporating gamma-Undecalactone, will also do much towards making the extract live. Ylang (Manilla) is useful to give the first "shower" of fragrance, which falls when the stopper is taken from the bottle. Bois de lilas of Givaudan is a marvelously fresh adjunct to help the perfumer in this note.

Paracresol Derivatives

p-Cresol, when heated with malic or maleic acid in the presence of sulfuric acid, yields *6-methyl coumarin*, a colorless, crystalline product having a coumarin-like odor with a suggestion of coconut. It is a relatively stable product except in the presence of strong alkalies. It has the same perfumery value as coumarin, blends well with the latter for new-mown hay types and is useful in lavenders, fougeres and moss types for soap perfumery. Valuable as it is in perfumery, 6-methyl coumarin finds its principal use in flavors, especially coconut and vanilla types, where it imparts a roundness and smoothness not obtainable with coumarin itself. It is reported to be considerably less toxic than coumarin, a fact of paramount interest to flavor formulators.

Acetylation of p-cresol produces *p-cresyl* acetate, a colorless, stable oil having, especially upon dilution, a strong narcissus odor. Its presence has been noted in cananga oil. It is used sparingly for its narcissus effect and in traces for various floral bouquets such as honeysuckle, lily and lilac.

p-Cresyl is isobutyrate is a colorless, stable oil having a powerful fruity odor suggestive of anise, and useful in small quantities in ylang-ylang and narcissus types.

p-Cresyl phenylacetate is a colorless, stable, crystalline substance melting at about 75° C. and having a mild, narcissus-like odor. It is particularly useful in floral soap perfumes and in floral compositions such as jasmin.

Treatment of p-cresol by any of the standard methylation procedures yields *p-cresyl methyl ether*, a colorless, stable oil having an odor suggestive of ylang-ylang and, in extreme dilution, of wallflower. The oil has, indeed, been found in cananga and ylang-ylang oils and is useful in the preparation of substitutes for these oils. It is a valuable adjunct in the compounding of jasmin, lilac, narcissus, hyacinth and wallflower types. Because of its exceptional resistance to alkali it is a popular soap perfume ingredient.

p-Cresyl phenyl ether is a colorless, stable oil with an odor similar to that of diphenyl oxide: geranium-like, but with a soft but tenacious rosy nuance and not quite as harsh as the latter. Very useful in soap perfumes for its rose, muguet and geranium effect coupled with its extreme stability to alkalies.

Oxidation of p-cresyl methyl ether with manganese dioxide and sulfuric acid leads to *aubepine*, or anisaldehyde. This product, found naturally in anise oils, vanilla pods, the cassies, wallflower and other oils, is a highly esteemed constituent of such florals as heliotrope, clover, lilac, acacia and sweet pea, among many others. It is a powerful fixative for soap perfumes. p-Cresol is capable of producing two *nitro musks*, one a dinitro and the other a mononitro. The latter is the only known nitro musk which contains but a single nitro group. Previous to this work the only one of the three cresols known to afford a musk was m-cresol, the precursor of Musk Am-

White Lilac
SUPREME

Here's a claim . . . and a challenge that you'll not duplicate this exquisite, low-cost floral in quality, fidelity or tenacity of fragrance, either at *our* price or at *any* price! Just tell us you're interested in a fine lilac—that you'll study it carefully in comparison with other offerings—and we'll gladly send you an adequate sample of our WHITE LILAC SUPREME to make your tests. This is truly a fragrance of incomparable beauty for use in extracts, toilet waters and colognes. And its price is *under $12.00 per lb.!*

FRITZSCHE

BROTHERS, INC.

76 NINTH AVENUE, NEW YORK 11, N. Y.

BRANCH OFFICES AND *STOCKS: ATLANTA, GA., BOSTON, MASS., *CHICAGO, ILL., CINCINNATI, OHIO, GREENSBORO, N. C., *LOS ANGELES, CAL., PHILADELPHIA, PA., SAN FRANCISCO, CAL., ST LOUIS, MO., MONTREAL AND *TORONTO, CANADA; *MEXICO, D. F., AND *BUENOS AIRES, ARGENTINA. FACTORIES: CLIFTON, N. J., AND BUENOS AIRES, ARGENTINA.

EST 1871

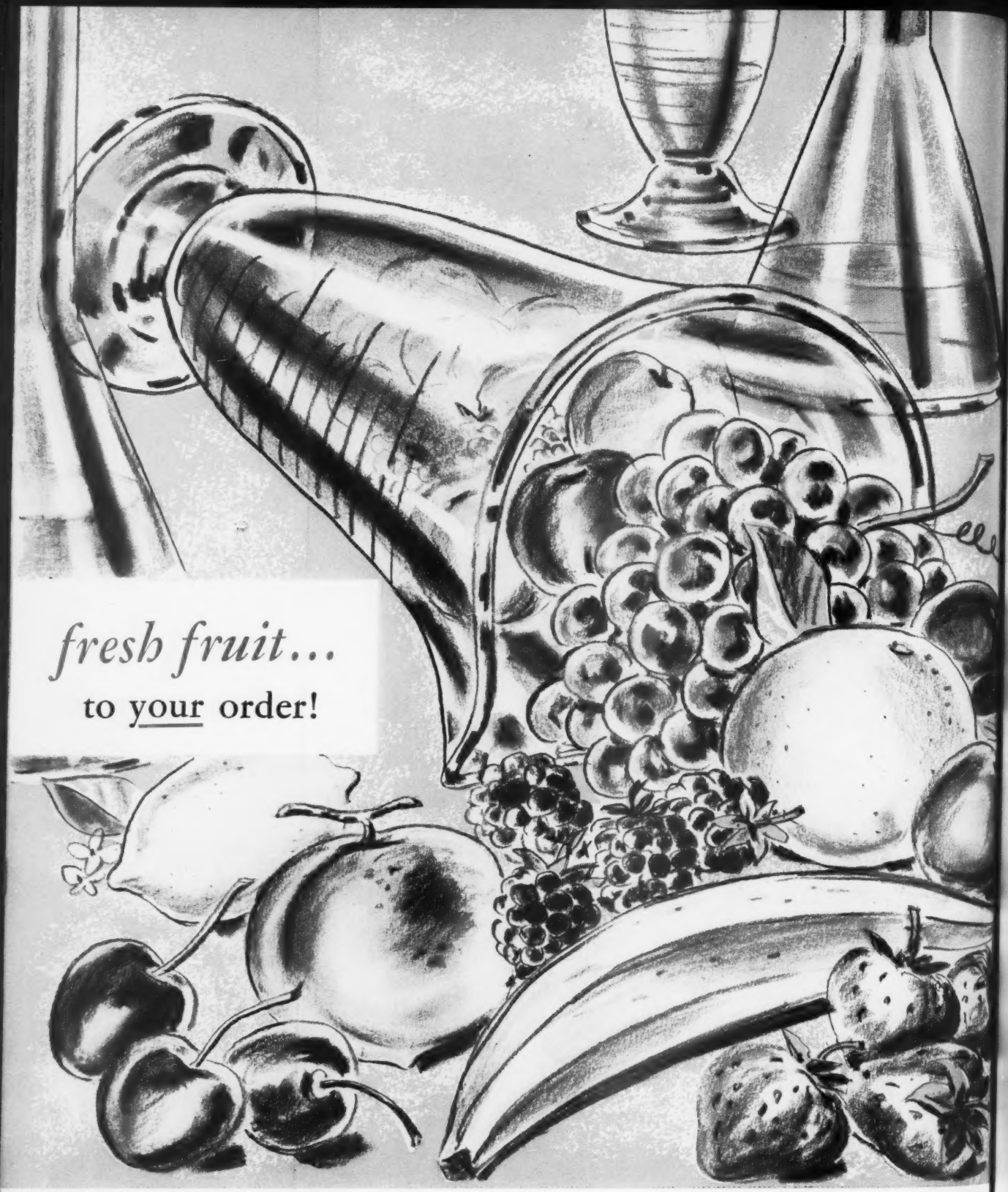
. . . smooth,
powerful,
long-lasting. . .
. . . the true,
fresh, moist
character of
WHITE
LILAC

FRITZSCHE
BROTHERS, INC.

76 NINTH AVENUE, NEW YORK 11, N. Y.

BRANCH OFFICES AND *STOCKS: ATLANTA, GA., BOSTON, MASS., *CHICAGO, ILL., CINCINNATI, OHIO, GREENSBORO, N. C., *LOS ANGELES, CAL., PHILADELPHIA, PA., SAN FRANCISCO, CAL., ST. LOUIS, MO., MONTREAL AND *TORONTO, CANADA; *MEXICO, D. F., AND *BUENOS AIRES, ARGENTINA. FACTORIES: CLIFTON, N. J., AND BUENOS AIRES, ARGENTINA.

EST. 1871



A FIRST NAME IN FLAVORS ...SINCE 1871

You name the flavor . . . we'll make it to your order! But better still, let *us* suggest the flavor for your product—especially for your pharmaceutical product, because in this field, particularly, one has to choose and use flavorings with utmost skill and discrimination. From long experience, we have gained the solid knowledge that enables us to lend your product greater palatability and acceptability through the use of *proven, appropriate, compatible* flavors.

FRITZSCHE BROTHERS, INC., 76 NINTH AVENUE. NEW YORK 11, N.Y.

BRANCH OFFICES AND *STOCKS: ATLANTA, GA., BOSTON, MASS., *CHICAGO, ILL., CINCINNATI, OHIO, GREENSBORO, N.C., *LOS ANGELES, CAL., PHILADELPHIA, PA., SAN FRANCISCO, CAL., ST. LOUIS, MO., MONTREAL AND *TORONTO, CANADA; *MEXICO, D. F. AND *BUENOS AIRES, ARGENTINA. FACTORIES: CLIFTON, N. J., AND BUENOS AIRES, ARGENTINA.

brette. To produce the new musks, p-cresyl methyl ether is converted to the o-tert-butyl derivative and the latter is oxidized to 3-tert-butyl 4-methoxy benzaldehyde. Upon gentle nitration of the aldehyde there is produced 3-tert-butyl 4-methoxy 5-nitrobenzaldehyde and, upon more vigorous nitration, 2, 4-dinitro 6-tert-butylanisole. Both are musks having strength and nuance comparable to the commercial nitro musks.—M. S. Carpenter, *The Givaudanian.*

Gas Chromatography

Gas-liquid partition chromotography provides a technique of unequalled speed and efficiency for the separation of very small samples of volatile mixtures into their components, as described and illustrated by G. A. P. Tuey (*S.P.C.* 31:353, 1958). The separation is brought about automatically once the sample has been introduced, and permanent graphic record of the separation is obtained. The number of peaks and their areas indicate the number of components present in the mixture and the amount of each: by comparison with the peaks produced by known substances it is possible even to deduce the nature of the substances present. If a non-destructive detector is employed it is possible to condense the components separately as they emerge from the column and subject them to examination by orthodox techniques, such as infra-red or mass-spectrometry.

The presence of β-ionone can be demonstrated in commercial "α-ionone." The main peak, emerging in 9·8 minutes, is followed by a smaller peak emerging in 12·4 minutes, which is due to the β-isomer. Consideration of the relative areas leads to the conclusion that the percentage of β-ionone is more than 10 per cent. Gas chromatography can be used to distinguish between essential oils from different sources; the actual samples were Peppermint Oils.

The main peaks (incompletely resolved) in the middle of each graph are due to menthane and menthol and are rather similar in all three; however, clear-cut differences exist among the minor peaks. The triplet of bands emerging shortly after injection show that the third component preponderates in American and Brazilian oils, while in Chinese oil, the second gives the largest peak. Another striking characteristic of the Chinese oil is the almost complete absence of the large final peak which is particularly conspicuous in Brazilian oil. The main difference between American and Brazilian oils is the presence in the latter of another substance giving rise to a peak between the menthane-menthol pair and the final peak.

The third example is taken from some work in which fenchone oxime was required. Use of "purified fenchone" gave only about 40 per cent yield of oxime, while a so-called "technical grade" gave an 80 per cent yield. The explanation became obvious when the samples of fenchone were examined by G.L.C.; the "technical" material gave, in addition to the fenchone peak, a smaller one equivalent to about 20 per cent of the total material, while the "purified" sample is obviously a complex mixture of substances.

The last example relates to β-phenylethylmethylethylcarbinol; a substance which can be made from β-phenylethylmethylketone. The latter substance has an unpleasant smell and should be entirely absent from good quality carbinol. The graphs show the ketone itself, a good quality carbinol and a sample of carbinol containing ketone which has been adulterated with other substances to mask the unpleasant ketone odor.

Ajowan Oil

Thymol is in great demand, owing to its insecticidal properties. Ajowan oil is an important source of its extraction, but because of its high cost and the non-utilization of the dethymolized oil, its preparation from Ajowan oil is not economical. G. N. Gupta, K. P. Singh and S. N. Ghatak (*S.P.C.* 31:372, 1958) have worked out the optimum conditions for the extraction of thymol (about 45 per cent) from the oil and have examined the dethymolized oil. The latter has been found to contain 7 per cent alpha-pinene, 80 per cent p-cymene and 7·2 per cent high boiling sesquiterpenes (under examination). Since p-cymene is used chiefly in cheap soap perfumes, it can easily be obtained from dethymolized oil by fractionation.

Laurel Oil

The essential oil obtained by the steam distillation of shells of laurel berries, known as Sugandh Kokila in Hindi, in a yield of 3·9-4·1 per cent, has been examined for its physico - chemical properties and chemical composition by I. C. Nigam, D. R. Dhingra and G. N. Gupta (*S.P.C.* 31:373, 1958).

The oil was fractionated under reduced pressure, after the removal of free acids and phenols, using an efficiently packed column. The individual fractions were analyzed for their physico-chemical constants and the constituents present in some of them were identified. The oil was found to contain 12·8 per cent cineole, 10·67 per cent free alcohols (chiefly terpineol) 17·91 per cent esters: chiefly methyl cinnamate, 1·56 per cent free cinnamic acid, 2·0 per cent free phenols, 15·4 per cent terpene hydrocarbons: chiefly 1-α-pinene and 1-β-pinene. The oil was also found to contain carboxyl compounds and some sesquiterpenes.

Identification and characterization of phenols, carbonyl compounds sesquiterpenes and the tertiary alcohol are in progress.

Chel-Iron (Kinney) is a brand of iron choline citrate, is available as tablets containing 330 mg. of the salt equivalent to 40 mg. of elemental iron in bottles of 100 tablets and as the drops containing in each cc. 133 mg. of the salt equivalent to 16 mg. of elemental iron.

Dulcolax (Geigy) is a new synthetic compound, bis (p-acetoxyphenyl)-2-pyridylmethane, virtually insoluble in intestinal juices, to provide relief in all types of constipation.

Pyridium Tri-Sulfa (Warner-Chilcott) combines 150 mg. of Pyridium with 167 mg. each of sulfadiazine, sulfamerazine and sulfamethazine per tablet. The product is offered in bottles of 30 tablets.

Sudafed Syrup (Burroughs Wellcome) contains 30 mg. of pseudoephedrine hydrochloride in each 5 cc. teaspoonful. The product is an orally active nasal decongestant and is available in bottles in one pint.

Neo-synephrine Compound Cold Tablets (Winthrop) contain 5 mg. neosynephrine hydrochloride, 150 mg. acetaminophen, 7.5 mg of thenfadil hydrochloride and 15 mg. of caffeine. The preparation is supplied vials of 20 and bottles of 100.

The Height of Appeal

The essence of appeal in your cosmetics, soaps, creams and toilet preparations is the fragrance you instill in it.

Here at *Synfleur*, the problem of reproducing and improving upon nature has been met successfully in an almost limitless array of products for 65 years.

This long experience in efficiently and economically enhancing commercial appeal with original compositions, aromatic bases and other perfume materials has fostered an enviable creative skill and tradition at *Synfleur*.

Turn this skill to your advantage when introducing new products or modernizing old ones. The facilities of our exceptionally competent laboratories are at your disposal.

Founded 1889 by Alois Von Isakovics

Synfleur SCIENTIFIC LABORATORIES, INC.

MONTICELLO, N. Y.

ATLANTA • DETROIT • NEW YORK • HAVANA • RIO DE JANEIRO • MEXICO, D. F.
Chicago • Melbourne • Burma • Hong Kong • Bogota • San Jose
Ciudad Trujillo • Guayaquil • Guatemala City • Calcutta • Wellington
Managua • Panama • Asuncion • Manila • San Salvador • Montevideo

CANADA: Herman & Leal • 637 Craig Street West • Montreal, Quebec

Compounder's Corner

Insect Repellent Stick

An insect repellent stick has been patented by H. E. Wassell, U. S. patent 2,819,995, January 14, 1958 and assigned to Union Carbide Corp. The stick contains no soap and only bland, neutral ingredients. The components of the stick are insoluble in water and reduce rather than increase any tendency for the composition to be removed with water. Thus the stick is resistant to deterioration by perspiration and it is not easily removed by water although it may be washed off by being emulsified with soap or other detergent. The repellent sticks do not dry out, harden or become unsatisfactory upon storage and they retain their original characteristics of softness while in intermittent use by the consumer. Sticks can be packaged in metal push-up containers without noticeable change in hardness or softness or size on long storage; and packaging in air-tight containers is unnecessary. Furthermore, sticks are white and substantially odorless and remain so under conditions of long storage or intermittent use. Sticks substantially liquefy when rubbed on the skin yet retain such firmness that they do not liquefy, soften or run under normal variations in temperature such as would be encountered during storage on a dealer's shelves or when carried by the user, but remain as firm, smooth, homogeneous compositions; nor do the compositions produce sticky or tacky films; nor do the sticks sweat or bleed the diol.

It was found that compositions of certain proportions of ozokerite wax with triple pressed stearic acid in conjunction with 2-ethylhexanediol-1,3 gave compositions which could easily be prepared at a low temperature. Satisfactory sticks were prepared by heating, until a clear melt is obtained, a mixture consisting essentially of from about 65 to 75 parts of an insect repellent, from about 18 to 23.4 parts of fatty acid, and from about 7 to 11.6 parts of ozokerite wax, the repellent comprising about 30 per cent 2-ethylhexanediol-1,3 and about 70 per cent of a member selected from the group consisting of 2-thylhexanediol-1,3, orthodimethyl phthalate, 2-cyclohexylcyclohexanol, 2 - phenylcyclohexanol and mixtures thereof, the fatty acid being a mixture of stearic acid and palmitic acid containing from about 26 parts to 70 parts of stearic acid, all parts by weight, pouring the melt into molds while it is clear and hot, and cooling the melt in the molds to a substantially homogeneous solid.

Dermatological Lotions

Lotions are fluid preparations by means of which many substances may be applied to the skin. They are especially useful when it is desired to cover a surface with a residual film, or when ointments are contraindicated. Lotions may be classified on a basis of their physical characteristics as (1) shake-lotions, (2) emulsions, and (3) solutions.

Lotions, particularly shake-lotions, are intended for their topical effect. They are especially suited in superficial dermatoses and may be applied over a large portion of the body, provided they do not contain substances which are absorbable from their vehicle and when absorbed give rise to systemic effects.

The phamacologic action of lotions depends on two factors: (a) the nature of the so-called vehicle, and (b) the nature of the so-called active ingredient. The physical assistance that a vehicle confers usually plays as active a part as the so-called active ingredient used in a lotion for its therapeutic effect.

Lotions, in contradistinction to ointments or pastes, are highly diffusive. They spread efficiently, seep and enter into cutaneous cracks, crevices, natural folds such as the normal folds between the fingers, and acquired folds such as wrinkles.

Lotions are applied directly to the skin—not by applying gauze or other textile material saturated with lotion. The application of textile materials wetted with lotion, vitiates the very purpose a lotion is designed to serve—complete and intimate contact of lotion and site.

Most lotions (aqueous, hydroalcoholic) are cooling, due to the evaporation of the solution or vehicle—a simple physical principle. Lotions are cooling in the direct relation to their vapor pressure—the more rapidly a lotion evaporates the more quickly it cools the skin.

On the other hand, lotions containing oils do not cool efficiently. The presence of even one per cent of oil reduces the cooling ability of a lotion far out of proportion to the influence that such a small amount of oil would be expected to exert. Oil-in-water emulsions are an exception, for though they contain oil, the oil content is emulsified so that the water phase is predominant and the oil film is not continuous. Such an exception does not apply to water-in-oil emulsions.

There is an *apparent* exception to the heat-retaining effect of an oil lotion, namely a lotion containing oil and menthol. Such a lotion does not leave a feeling of heat at the site due to the sensory cooling effect of menthol.

In the absence of oil or fatty materials, the evaporation of a lotion commonly leaves the therapeutic additive in intimate contact with the lesion or the site of application. Upon evaporation of the vehicle, the therapeutic additive is usually left on the site in *its full strength*, provided, it is not more volatile than the vehicle. For that reason, lotions,

SPOTLIGHT QUALITY... With Harchem's Century Brand Stearic Acid

▲ A clean, slow burning candle demonstrates the quality and stability Century Brand Stearic Acid puts in your product.

Good ingredients make good products. Whether you make lipsticks, lotions or creams, pharmaceuticals, soaps or candles, the quality of stearic acid you use will determine the quality and the ultimate sales success of your product.

Candles are a good case in point. Slow burning candles must burn cleanly, white candles must not yellow and colored candles must hold their true shade. These qualities cannot be realized without the color and oxidation stability found in Century Brand Stearic Acid.

In addition to single, double and triple pressed grades of Stearic Acid, Harchem makes other animal and vegetable fatty acids. Write on your company letterhead for a copy of our new publication that gives the specifications of all these Century Brand Fatty Acids. Ask for Bulletin H-31.00.

HARCHEM® CENTURY BRAND

HARCHEM DIVISION

WALLACE & TIERNAN, INC.
25 MAIN STREET, BELLEVILLE 9, NEW JERSEY
IN CANADA: W. C. HARDESTY CO. OF CANADA, LTD., TORONTO

ULTRAGRAM

(up-to-date information on detergents, wetting agents and foaming agents)

ALL ABOUT:

SODIUM XYLENE SULFONATE

a solubilizing hydrotrope for light- or heavy-duty built detergents

- a coupling agent and low-temperature solubilizer for heavy-duty liquids with high phosphate content
- a solubilizer and cloud-point depressor for light-duty liquid detergents
- a conditioner and anti-blocking agent in spray-dried detergents

ULTRA "SXS" is available in 85% active dry form, and as a 40% liquid for tank-truck and tank-car shipment from Paterson and Chicago plants. Send for data sheet.

Headquarters for all your detergent needs
ULTRA CHEMICAL WORKS
Division of Witco Chemical Company
2 Wood Street, Dept. D5, Paterson, N. J.

particularly aqueous or hydroalcoholic lotions, especially those which do not contain glycols such as glycerol, or oils, are vastly superior to ointments or pastes in bringing to the lesion the full effect of the therapeutic additive. The effect of ointments or pastes is limited to the extremely narrow zone of contact between lesion and the first molecular layer of ointment.

Though the overall effect of lotions, particularly shake-lotions, is to protect, lotions are also used to confer a special effect or to serve a particular purpose. For example, sedative lotions are intended to diminish skin irritations and are used in certain superficial dermatoses. This is accomplished by the cooling produced by evaporation of a lotion, or by local anesthesia, or by the substitution of another sensation as through the use of menthol, methyl salicylate, or camphor.

Astringent lotions are used to arrest secretions or to control inflammation. They exert their effect by the precipitation of tissue protein. Though witch hazel is the traditional astringent lotion, more effective astringent lotions contain a higher proportion of alcohol, or alum, or zinc salts or bismuth salts.

At times a superficial stimulating effect in certain stages of acne, seborrhea or in parasitic infections of the skin is desirable. For that purpose either tar, sulfur, benzoic or salicylic acids, or resorcin, or their combinations are used. The effect of such lotions is keratoplastic, and in high concentration, keratolytic.

Antiseptic lotions have their limitations due to either poor solubility of most antiseptic substances in aqueous solutions, or if they are soluble, to the irritating effects of the antiseptics themselves. However, bacterial inhibition may be accomplished by the use of antibiotics, by hexachlorophene or by the use of other suitable agents in lotions.

If *shake lotions* are defined as suspensions of water-insoluble materials in an aqueous vehicle, then the action of such a lotion is superficial, and is limited to a local, epidermal effect. For that reason, shake lotions are indicated in superficial dermatoses and may be applied to large surfaces without danger of absorption of the ingredients or danger of systemic toxic effects. The above statement applies solely to shake-lotions consisting of zinc oxide, starch, calamine or other water-insoluble ingredients in water, with glycerine or other similar liquids, but without fats.

However, a shake lotion becomes entirely different in its effect if a water-soluble substance is added. For example, the addition to a shake-lotion of phenylmercuric acetate, or phenol, or tar, creates the danger of absorption and the possible toxic effects of phenol or mercurial compounds may arise.

With the continuing development of pharmaceutical preparations due to newer synthetic materials, shake-lotions may not be the simple suspensions they were thought to be. For example, the addition of fat or oil to a shake-lotion may render it an emulsion. Emulsions have entirely different pharmacological bases and therefore usually different therapeutic effects. Also, the absorption characteristics of a shake-lotion may be changed by the addition of nonfat substances as the polyethylene glycols, Carbowaxes or Ucons, or surface-active agents as sodium lauryl sulfates, benzalkonium chloride, lanolin alcohols, etc. These substances are frequently added to increase the pharmaceutical elegance, homogeneity or appearance of shake-lotions.

Shake-lotions may be divided into two types, (a) simple suspensions, or (b) simple suspensions in which suspending agents are used. Maintenance of the suspension is one of the difficulties inherent in shake-lotions; there is a tendency for the insoluble powders to sink to the bottom of the container. As the lotion is used, proportionately more fluid and less powder are removed, until eventually no fluid remains and there is a thick and partially dried sediment-powder on the bottom.

This difficulty may be overcome by addition of a suspending agent to increase the viscosity of the vehicle; this retards the settling of the powdered solids, and facilitates their resuspension when the lotion is shaken. These may be vegetable gums or mucilages such as tragacanth which are not advisable, methyl celluloses, pectin, bentonite, sorbitol solutions, glycols or powders such as aluminum hydroxide. These additions are used sparingly since upon drying they will cause flaking or produce a taut, unpleasant feeling upon application to the skin. Some disadvantages of the use of natural gums may be sensitivity to them, or fermentation and souring of the gums unless adequate preservatives are used. In the case of yeast fermentation, the accumulation of carbon dioxide may be sufficient to cause the bottle to explode. Occasionally this happens in lotions in which large proportions of insoluble earths are used.—*Di-Cyan & Brown Bulletin.*

Aluminum Hydroxide Co-Precipitate

Aluminum hydroxide-magnesium carbonate co-precipitate dried gel Type F-MA11 is a finely-divided, white powder consisting of a combination of aluminum hydroxide gel and magnesium carbonate, prepared by a new process that yields a gastric antacid in dry form. The antacid, being offered by Reheis Company, Inc., has extremely prompt and prolonged acid-neutralizing action in the optimum pH range. The product makes it possible to formulate tablets, powders and capsules with the desirable properties hitherto achieved only by liquid aluminum hydroxide gel.

Buffered Aspirin

The stability of acetylsalicylic acid with 11 commonly used antacid compounds has been investigated by F. J. Bandelin and W. Malesh (*J. Am. Pharm. Assoc. Pract. Pharm. Ed.* 19:152, 1958). Combinations of a ratio of 2 parts of acetylsalicylic acid to 1 part of antacid compound were assayed periodically for a period of one year at room temperature and at 37.5° C. The free salicylic acid found was the criterion of decomposition of the acetylsalicylic acid. Of the compounds investigated dihydroxy aluminum aminoacetate and calcium gluconate were superior to all others, producing less than 1 per cent of free salicylic acid at the end of one year. Aluminum hydroxide dried gel and calcium carbonate were less satisfactory, producing somewhat less than 5 per cent of free salicylic acid after one year. All of the remaining compounds exhibited a marked destructive effect on acetylsalicylic acid becoming more marked with the elapse of time. Magnesium trisilicate, sodium bicarbonate, and sodium phosphate dibasic produced complete destruction of the acetylsalicylic acid in one year or less.

Trade Literature

Pharmacy and Pharmaceuticals

Facts About Pharmacy and Pharmaceuticals is the title of a 138-page booklet available from the Health News Institute, 60 East 42 Street, New York 17, for $1.25 for single copies, and for less in quantities. The booklet is an extremely comprehensive presentation of information regarding ethical drug products and their distribution.

Hexachlorophene Bibliography

Sindar Corporation, 321 West 44 Street, New York 36, has published a supplement to Technical Bulletin H-1, entitled G-11 (Hexachlorophene, U.S.P.), An Annotated Bibliography.

Aerosol Nitrous Oxide

A new eight-page brochure describing the types of nitrous oxide installations specifically designed for the pressurized packaging industry is available from Ohio Chemical & Surgical Equipment Co., 1400 E. Washington Avenue, Madison 10, Wisconsin.

Scovill Pursers

Scovill Manufacturing Company, Cosmetic Container Division, Waterbury, Connecticut, has issued a new four-page, attractive brochure illustrating three styles of Pursers made up of standard parts, and special custom-made Pursers. One page is devoted to Standard Pursers, another page to DeLuxe Pursers, and a third page to Ornamented Bottles, Type 4. This brochure, No. CC-801, and the previously issued Refillable Pursers Brochure No. DC-604, give complete information.

Corn Starch

Corn Starch, a 44-page illustrated booklet, first published in 1955, is available in a new edition from Corn Industries Research Foundation, 3 East 45 Street, New York 17.

Falcon Blenders

The Falcon Manufacturing Division of First Machinery Corp., 211 Tenth Street, Brooklyn 15, N.Y., has issued a 4-page bulletin describing the new Falcon Ribbon Blenders.

Dow Methocels

A colorful new handbook on Methocels giving technical information and use data is available from The Dow Chemical Company, Midland, Michigan. Methocel is Dow's trademark for methylcellulose esters —dimethyl ether of cellulose, hydroxypropyl methylcellulose, carboxymethyl methylcellulose, and a series having a low methoxyl content, soluble only in alkalies. They find uses as thickeners, emulsifiers, emulsion stabilizers, suspending agents, and binders.

Glyco Esters

A revised edition of the 24-page catalog, Esters by Glyco, is available from Glyco Products Co., Empire State Building, New York 1. Described are glycerol, glycol and polyethylene glycol esters of higher fatty esters.

Gane's Custom Chemicals

Gane's Chemical Works, 677 Fifth Avenue, New York 22, has issued an eight-page brochure describing its facilities for custom work, manufacture of product specialties, and pure research.

(*Continued from page 597*)

the invention including illustration by equations or sketches wherever possible.

(11) *If a joint invention, an indication of the contribution made by each inventor so that the patent department can determine the proper inventors, etc.*

(12) *An indication of what other departments of the company have been following the progress of the invention.*

(13) *Witnessing of disclosure (discussed in detail below).*

This information can be submitted on specially provided disclosure forms or as interoffice memos addressed to the patent counsel.

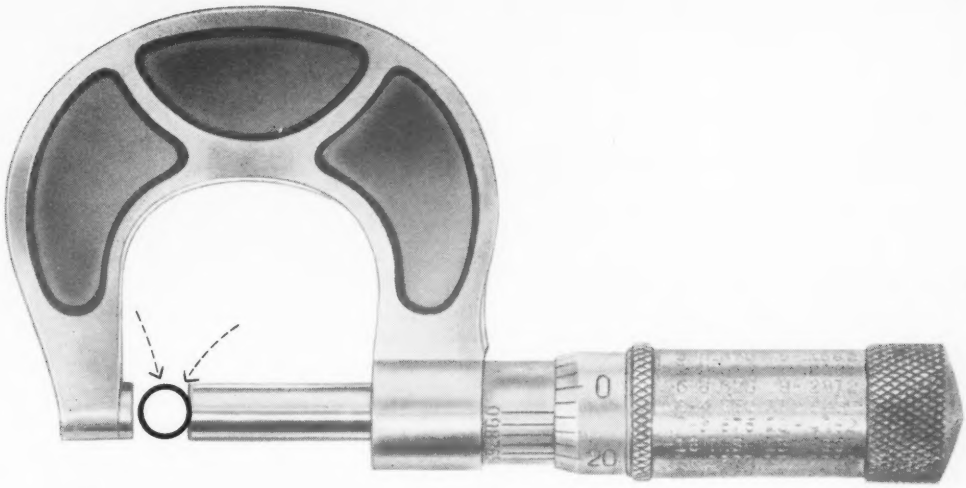
The Need for Corroboration

When an inventor files a patent application, he is not required to provide witnesses who will corroborate dates, events, and so forth. However, in certain instances the inventor becomes involved in a priority contest or "interference" proceeding because someone else claims to have made the same invention. When this happens, the two (or more) parties become involved in an interference which has as its purpose the determination of priority of invention. It is at this time that corroboration becomes the key to success, or failure, in proving priority of invention since the *inventor's* testimony is considered "self-serving". McLean has aptly stated that "in nearly all respects the rules which the patent office uses in evaluating evidence as to dates of invention are as stringent as any in the entire field of civil . . . law" (6). On this same point a member of the Board of Appeals of the Patent Office has pointed out that even evidence sufficient to support a conviction and death sentence in a capital is frequently insufficient as compared with the amount of proof required to substantiate the completion of an invention (3). Since there is little doubt that the subject of interferences is one of the most technical aspects of the entire field of patent law (4) and, because of the expense and uncertainly entailed, it is indeed fortunate that a large proportion of interferences are settled by amicable arrangement between the contesting parties (5). It is interesting to note that interferences occur with significant frequency since the first 2,500,000 patents were accompanied by 84,000 interferences, for an overall rate of almost 3.4 per cent (6). Undoubtedly, the percentage of interferences is even greater in pharmaceutical and chemical inventions.

Corroboration by Witnessing: General Discussion

Testimony of an inventor and his written records

(*Continued on page 673*)



For a

SMALLER TABLET

or a tablet of

HIGHER POTENCY

use Baker NEW ALUMINUM HYDROXIDE—TYPE AA-D

• higher assay • higher activity • more dense powder

In your formulation of Aluminum Hydroxide you want to provide greater potency or a tablet of smaller size. Now J. T. Baker's new Aluminum Hydroxide Type AA-D makes this possible.

Aluminum Hydroxide, U.S.P. Dried Gel—Type AA-D—High Assay—High Activity—Dense, while complying with U.S.P. specifications, also provides:

ASSAY—An assay range of 54.0-58.0% Al_2O_3—an average of more than 10 per cent relative increase in Al_2O_3 content over the minimum U.S.P. requirement of 50% Al_2O_3.

ACTIVITY—Consistently higher activity. Specifications assure an acid-consuming capacity of 280 ml. N/10 HCl per gram—better than 10 per cent more activity than required to meet the U.S.P. specification.

DENSITY—Controlled within the range of 3.8-4.5 ml. per gram (about 20 lbs. per cubic foot). Occupies only about half the volume of competitive dried gel powders.

Baker Aluminum Hydroxide—Type AA-D is free-flowing, pours and mixes readily, handles easily, is less dusty and doesn't stick to side walls of containers.

Let Baker Aluminum Hydroxide — Type AA-D help you formulate an improved tablet. Gain the benefit of higher assay and higher activity in a denser, yet free-flowing, powder. Write for your sample to study in your laboratory.

J. T. Baker Chemical Co.

REAGENT • CHEMICAL • FINE • INDUSTRIAL

Phillipsburg, New Jersey

Industry's Books . . .

The Neuroses And Their Treatment, *edited by Edward Podolsky, M.D., Department of Psychiatry, Kings County Hospital, 555 pp., Philosophical Library, New York, Cloth,* **$10.**

In this comprehensive survey of the field at present, Dr. Podolsky has selected some 40 representative papers containing the latest knowledge of specialists in the handling of all phases of the neurosis—from simple allergies to severe and crippling phobias—from psychotherapy in infancy to the handling of senility—from the routine psychotherapy to electroshock, from the new psychopharmacological aids to the extreme measures of lobotomy. Together, these authoritative clinical reports provide a valuable and illuminating cross-section of the latest diagnoses and therapies from advance researchers in the field.

Accepted Dental Remedies, *23rd Ed., 1958, Published by American Dental Association, Chicago, 214 pp.,* **$3.60.**

This is a compilation of drugs used in dental practice including a list of brands accepted by the Council On Dental Therapeutics Of The American Dental Association. As in earlier editions this includes information concerning: (1) drugs of recognized value in dentistry, (2) drugs of uncertain status more recently proposed for use by the dentist, and (3) some drugs once employed extensively but now generally regarded as obsolete.

Better Report Writing, *by Willis H. Waldo, Monsanto Chemical Co., 231 pp., pocket size, Reinhold Publishing Corp., New York, cloth,* **$4.75.**

This handy desk guide presents authoritative facts on the important details of effective scientific composition, style, division of reports, tables, illustrations, and use of words. The book is written as a quick reference instead of a classical exposition of technical English. Three appendices condense a vast amount of information on abbreviations, symbols, and hyphenation.

The Lipids, Their Chemistry and Biochemistry, *by Harry J. Deuel, Jr., University of Southern California, Vol. III: Biochemistry, 1065 pp., Interscience Publishers, Inc., New York, (1957), cloth,* **$25.**

This is the third and final volume in this series. Its Contents: I. General Consideration of Lipid Digestion, Absorption, Transport, and Storage. II. The Biosynthesis of Triglycerides, Phospholipids, and Fatty Acids in the Animal Body. III. The Oxidation and Metabolism of Triglycerides, Fatty Acids, and Glycerol in he Animal Body. IV. The Question of the Conversion of Fat to Carbohydrate. V. The Oxidation and Metabolism of Phospholipids and their Hydrolysis Products. VI. The Role of Acetic Acid, Formic Acid, and Propionic Acid in the Intermediary Metabolism of Fats. VII. The Metabolism of Branched-Chain Acids, Hydroxy and Keto Acids, Dicarboxylic Acids, Tricarboxylic Acids, Fatty Acid Amides, Fatty Acid Aldehydes, and Hydrocarbons. VIII. The Metabolism of Cholesterol and Related Sterols in the Animal Body. IX. The Metabolism and Nutritional Value of the Vitamins D. XI. The Metabolism and Nutritional Value of the Vitamins E (Tocopherols). XII. The Metabolism and Nutritional Value of the Vitamins K. XIII. The Physiology and Biochemistry of the Essential Fatty Acids. XIV. The Nutritional Value of Fats.

Polyurethanes, *by Bernard A. Dombrow, Nopco Chemical Co., 176 pp., Pocket Size, Reinhold Publishing Corp., New York, (1957), cloth,* **$4.50.**

The remarkable uses and possibilities of the polyurethanes are portrayed in this new volume. Includes their many applications as foams, and as coatings, rubber (castings as well as tires), and adhesives. These latter three applications are now emerging with great importance, and are fully covered here. The book also explains why America's yearly production capacity of polyurethanes has reached 70 million pounds, what this production is used for, and what the future holds.

Biochemistry Of Some Peptide and Steroid Antibiotics, *by E. P. Abraham, 96 pp., pocket size, John Wiley & Sons, Inc., New York, (1957), cloth,* **$3.**

This volume makes available the 1957 Ciba Lectures in Microbial Biochemistry, presented at the Institute of Microbiology, Rutgers University. In these lectures, Dr. E. P. Abraham of Oxford University describes recent work in several families of antibiotics—the bacitracins, which are sulphur-containing polypeptides with unusual structures, and two families of cephalosporins, one consisting of peptides related to penicillin and one of steroidal nature. The concluding portion of the book treats the structural and functional relationships of the bacitracins and cephalosporins to other antibiotics.

American Drug Index 1958, *by Charles O. Wilson, Ph.D., University of Texas, and Tony Everett Jones, Ph.D., University of Colorado, 716 pp., J. B. Lippincott Co., Phila., cloth,* **$5.**

The American Drug Index has been prepared for the identification and correlation of the many pharmaceuticals available to the medical and allied professions. The organization of the index is fundamentally alphabetical with extensive cross-indexing. Names listed are generic; brand (trade-mark, proprietary or specialty). Data included are generic name, chemical name, manufacturer, pharmaceutical forms, size, dosage and use.

Plastic Sheet Forming, *by Robert L. Butzko, The Auto-Vac Co., 181 pp., Reinhold Publishing Corp., New York, (1958), cloth,* **$4.50.**

This guide surveys the phenomenal number of applications and all other pertinent information related to these materials. Everything from product design through manufacturing is now in one place. The book explains sheet forming use in over 14 different kinds of products. It also includes material selection, equipment, molds, sheet decoration, and costs. It provides an introduction to sheet forming for the engineer and designer, plus an explanation of the various methods of forming that the manufacturing technician needs to know.

ADVERTISEMENT—*This entire page is a paid advertisement* *Prepared by U. S. Industrial Chemicals Co.*

U.S.I. CHEMICAL NEWS

May ★ A Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1958

A.I.Ch.E. Marks 50 Years Of Progress This June

The American Institute of Chemical Engineers celebrates its Golden Jubilee this year. During the week of June 22, leaders of the American chemical industries, internationally-known figures in the chemical engineering field, and thousands of other members of the A.I.Ch.E. will gather at Philadelphia to attend technical sessions and the official banquet, and to witness the awarding of special achievement citations.

Since 1908, the American chemical process industries and the A.I.Ch.E. have grown together, helping each other advance into the present "Age of Chemistry." The A.I.Ch.E. has been a guiding force behind this progress. U.S.I. itself, founded in 1906 as a producer of industrial alcohol, could hardly have attained its present size and diversification without its chemical engineers and the organization behind them.

To quote the publisher of the Institute's official organ: "From the impressive plateau of its 50 years of progress, the American Institute of Chemical Engineers can look back with pride on a record of outstanding achievement, and forward with confidence to continued service to mankind."

New Lanolin Derivatives Soluble in Water, Alcohol

Polyoxyethylene derivatives of acetylated lanolin have been developed which are completely soluble in water, alcohol, and many oils and solvents. They yield persistent emollient films and have solubilizing properties desirable in cosmetics, pharmaceuticals, toiletries and aerosol formulations.

The materials are non-greasy, clear liquids designed to give a soft, non-tacky after-feel when incorporated into water and alcohol preparations and emulsions. They are produced in two forms: completely acetylated for applications where a high alcohol content is essential; and partially acetylated for aqueous and weak alcohol preparations. The higher the degree of acetylation the greater the hydrophobic and substantive characteristics of the material.

These new lanolin derivatives are suggested for aerosols, shave lotions and creams, hair tonics, rinses and shampoos, insect repellents and sunscreens, deodorants, anesthetics and antiseptics, among many other drug and cosmetic use possibilities.

Fluorinated Polyethylene Keeps Air and Gases Out, Odors and Flavors In

A recent patent claims that the addition of 0.03-3.5% by weight of fluorine to the surface of polyethylene films and bottles makes them substantially impermeable to atmospheric gases, perfume components, aromatic flavor constituents, and preserving or pressurizing gases. The properties of the polyethylene remain

MORE

SRE and Shippingport Reactor Mark Important "Firsts" in Atomic Power Program

SRE First Reactor to Supply Heat to Conventional Power Plant; Shippingport First Complete Commercial Atomic Power Plant

The Sodium Reactor Experiment in Southern California — first non-military nuclear reactor to feed heat into commercial power generating equipment for conversion to electricity — is a sodium-cooled, graphite-moderated experimental atomic power plant. Built for the Atomic Energy Commission, its purpose is to develop technical data for designing, constructing and operating full scale nuclear plants which will produce power economically.

In this reactor, liquid sodium metal in a closed system is circulated through the core, picking up reaction heat which it transfers to a second, non-radioactive closed sodium system. From this second system the heat is transferred to the power generation equipment of the Southern California Edison Company.

Sodium Coolant Has Advantages

Sodium makes an excellent reactor coolant because of its relatively low neutron-absorbing characteristics, good heat transfer properties, low melting point and high boiling point. High temperatures without high pressure can be produced when sodium is used as coolant.

As part of the experimental program, various fuel elements, components and structural assemblies are being studied in the SRE system. Right now the reactor uses uranium slightly enriched with uranium-235 in the core. Cores containing thorium-uranium alloys are planned for future investigation.

Shippingport Uses Zr, Hf, in Core

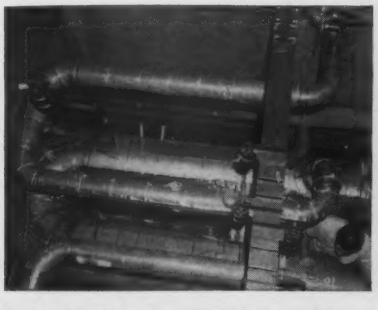
The new central-station atomic power plant at Shippingport, Pa. — first in this country to feed electricity into a commercial grid — contains in its core some 14 tons of uranium clad in zirconium metal and zirconium alloy, and control rods made of hafnium and zircaloy.

Zirconium metal has an extremely low nuclear cross-section — allowing free passage of neutrons — and makes an ideal cladding and supporting material for uranium because it offers minimum interference to the fission process, is corrosion and heat resistant, and structurally strong.

In the Shippingport reactor, the core is composed of 32 seed fuel elements containing about 165 pounds of highly enriched uranium clad with zircaloy. These seed elements are surrounded by 113 blanket fuel elements containing 14 tons of natural uranium clad with zirconium alloy.

Hafnium, although found closely associated with zirconium in nature, has the opposite type of cross-section characteristics. It absorbs neutrons readily, and consequently makes excellent control rod material. In the Shippingport reactor core, each of the 32 seed elements has its own two-part control rod. The absorber section is made of hafnium, the follower portion of zirconium alloy.

This pressurized water reactor plant started delivering electricity on December 18, 1957. It uses ordinary water to moderate the nuclear fission process, and the water under pressure is circulated through the reactor core to remove the heat. The hot water is pumped through heat exchangers to produce steam which in turn is used to power the generating turbines. The plant can deliver 60,000 kilowatts into the system of Duquesne Light.



View of sodium-to-sodium heat exchanger which carries heat from SRE core to power generators. (photo courtesy Atomics International)

At Shippingport during final stages of installation, reactor core is being lowered into pressure vessel. Zirconium-clad uranium fuel is contained in this core. (photo courtesy Westinghouse)

May ★ **U.S.I. CHEMICAL NEWS** ★ 1958

CONTINUED *Polyethylene*

unchanged.

This development should make it possible to package foods, colognes, other toiletries containing perfumes, aromatic solvents, mineral and vegetable oils and aerosol formulations in polyethylene films or flexible containers — without loss of volatile constituents or entry of deteriorating gases.

The fluorination process is claimed to be simple and economical. Film or bottles are washed free of lint, grease, dust and all foreign matter which might cause fluorine to ignite the polyethylene. After this, the film or container is contacted with pure fluorine or a fluorine-inert gas mixture, at room temperature or at up to 50°C. The length of contact varies depending upon the equipment, fluorine concentration, temperature and thickness of film or bottle.

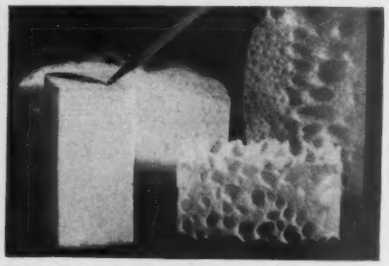
While clarity, flexibility, tensile strength, heat sealability and ultraviolet transmittal are claimed to remain unchanged, permeability of the polyethylene is decreased many fold. In a typical test with a volatile liquid, 5.6% of allyl caproate was lost from an untreated polyethylene bottle in 40 days. Only 0.05% was lost from a bottle which had received a six-hour fluorine treatment. Testing for oxygen transfer, an untreated film transmitted 303 cc per 100 square inches of surface in 24 hours. A treated film transmitted only 46 cc.

Silicone Additives Insure Uniform Cell Structure in Flexible Urethane Foams

Silicones are now being added to flexible polyurethane foams to give smaller, more even cell structure, uniform resilience and flexibility, and better appearance.

One type is a water-dispersible emulsion which can be added directly to the catalyst phase of the foam system. The manufacturer recommends that it be added as the last component when making up this phase, and claims that it will remain uniformly dispersed from several days to two weeks in most catalyst systems. Another type is a fluid added directly to the prepolymer and dispersed by thorough agitation.

Flexible polyurethane foams have evoked wide-spread interest as insulation for both industrial and consumer use, as cushioning, and for a variety of specialty applications. They can be produced from the reaction of polyesters with diisocyanates. An intermediate that can be used to produce the polyesters is U.S.I. ISOSEBACIC® Acid, a mixture of C-10 dibasic acids.



Polyurethane foam containing silicone additive has smaller, more uniform cell structure than other samples containing no silicone.

New Sterilizing Method Employs Ethylene Oxide in Safe Aerosol Formulation

The U. S. Department of Agriculture's Entomology Research Division reports that they have found a way to combine highly volatile ethylene oxide with ordinary aerosol propellants to form a non-flammable sterilizing formulation.

Ethylene oxide is a known germicide, insecticide and sterilant, but its highly flammable nature has been a deterrent to its widespread use for these applications.

The new aerosol is designed for sterilizing sensitive materials which cannot stand treatment by steam, dry heat or liquid chemicals.

TECHNICAL DEVELOPMENTS

Information about manufacturers of these items may be obtained by writing U.S.I.

Radioactive isotopes and isotope-labeled compounds are described in a new price list now available. Included are C-14 compounds, heavy water, deuterium- and tritium-labeled compounds, N-15 compounds of high isotopic concentration. **No. 1350**

Fatty amines are discussed in new 24-page booklet covering method of manufacture, applications, chemical reactions, vapor pressure, solubility and handling. **No. 1351**

1723 Voluntary national standards approved by the American Standards Association are listed in free 67-page index just published. Standards in fields of chemicals, petroleum, rubber, textiles, are included among others. **No. 1352**

Sodium dispersions which improve chemical reaction efficiencies by providing more active surface area are described in 42-page booklet. Latest production equipment for continuous preparation of dispersions covered. **No. 1353**

Paper-strip electrophoresis analysis of various proteins, hemoglobins, amino acids and many organic and inorganic mixtures is outlined in a new catalog describing equipment for the purpose. **No. 1354**

New organic phosphate insecticide (O,O-diethyl S-p-chlorophenyl-thiomethyl phosphorodithicate) is claimed non-systemic, long-residual, less hazardous than many other organic phosphates. For control of mites and broad range of other insects. **No. 1355**

Plastic pipe for safe transportation of drinking water is discussed in new 12-page folder. Includes types of plastics used, method of joining lengths, suitable applications, standards set by Natl. Sanitation Foundation. **No. 1356**

Chemical analysis of solid surfaces by nuclear methods is described in 33-page U. S. Army report which can now be purchased. Methods used to detect all elements to depth of several microns (sensitivities from 10^{8}-10^{16} gm/cm²). **No. 1357**

Dangerous properties of over 8,500 chemicals, and safe practices in handling, storing and shipping, are outlined in a 1476-page book just put on sale. Toxicity, fire, radiation, air pollution, explosion hazards are covered. **No. 1358**

Tritiated thymidine is now offered in research quantities as a new tool for studies of growth. Material is said to be suitable for investigating cell formation and turnover, genetic patterns, effects of intracellular radiation and growth inhibition in neoplasms. **No. 1359**

PRODUCTS OF U.S.I.

HEAVY CHEMICALS

Sodium, Metallic: cast solid in tank cars, steel drums, pails; bricks in barrels, pails.

Sodium Peroxide, Sodium Sulfite, Sodium Sulfate

Ammonia, Anhydrous: commercial & refrigeration. Tank cars or tank wagons.

Ammonium Nitrate, Nitric Acid, Nitrogen Fertilizer Solutions

Phosphatic Fertilizer Solution: wet process phosphoric acid.

Sulfuric Acid: all strengths, 60 Baume to 40% Oleum. Also Electrolytic grade to Federal specifications. Tank cars or tank wagons.

Caustic Soda, Chlorine

OTHER PRODUCTS

PETROTHENE® Polyethylene Resins

Pharmaceutical Products: DL-Methionine, N-Acetyl-DL-Methionine, Urethan USP, Riboflavin USP, Intermediates.

Alcohols: Ethyl (pure and all denatured formulas); Proprietary Denatured Alcohol Solvents SOLOX®, FILMEX®, ANSOL® M, ANSOL PR.

Organic Solvents and Intermediates: Normal Butyl Alcohol, Amyl Alcohol, Fusel Oil, Ethyl Acetate, Normal Butyl Acetate, Diethyl Carbonate, DIATOL®, Diethyl Oxalate, Ethyl Ether, Acetone, Acetoacetanilide, Acetoacet-Ortho-Chloranilide, Acetoacet-Ortho-Toluidide, Ethyl Acetoacetate, Ethyl Benzoylacetate, Ethyl Chloroformate, Ethylene, Ethyl Sodium Oxalacetate, Sodium Ethylate, ISOSEBACIC® Acid, Sebacic Acid, Urethan U.S.P. (Ethyl Carbamate), Riboflavin U.S.P., Pelargonic Acid, and 2-Ethyl Heptanoic Acid.

Animal Feed Products: Antibiotic Feed Supplements, BHT Products (Antioxidant), d Calcium Pantothenate, Choline Chloride, CURBAY B-G®, Special Liquid CURBAY, VACATONE®, Menadione (Vitamin K_3), DL-Methionine, MOREA® Premix, Niacin USP, Riboflavin Products, Special Mixes, U.S.I. Permadry, Vitamin B_{12} Feed Supplements, Vitamin D_3, Vitamin E Products, Vitamin E and BHT Products.

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corporation
99 Park Avenue, New York 16, N. Y.

U.S.I. SALES OFFICES

Atlanta • Baltimore • Boston • Buffalo • Chicago • Cincinnati
Cleveland • Dallas • Detroit • Houston • Indianapolis • Kansas City, Mo.
Los Angeles • Louisville • Minneapolis • Nashville • New Orleans
New York • Philadelphia • Pittsburgh • Portland, Ore. • St. Louis
Salt Lake City • San Francisco • Seattle

Skin Research

Psoriasis Conference

Psoriasis is the result of failure of the skin to handle protein properly, and can be treated successfully in many cases with new medications. This promise of relief came in a conference on the disease held by the New York Academy of Sciences at the Barbizon-Plaza Hotel.

Chairman of the conference was Dr. Peter Flesch, of the faculty of the University of Pennsylvania School of Medicine, who reported on five separate chemical abnormalities in the skin of psoriasis patients. These abnormalities have enabled Dr. Flesch to diagnose the disease, by testing skin scales, without having seen the patient. Allantoin was effective in dispersing the horny framework of the psoriatic scales.

In a review of treatments for psoriasis Dr. M. Harris Samitz, reported that allantoin also was effective in clearing up psoriasis sores in patients when used in conjunction with tar.

A new remedy, combing allantoin and a tar compound in a lotion base, formulated specifically for the treatment of psoriasis, was reported on by two clinical dermatologists.

Dr. Sidney G. Clyman of the Skin and Cancer Unit, Bellevue Hospital, New York, compared the new lotion, Alphosyl, with a traditional ointment, a combination of ammoniated mercury, salicylic acid, and liquor carbonis detergens in thirty-nine patients. Twenty-five patients obtained complete clearance or great improvement in their disease when they used Alphosyl, only six got comparable relief with the ointment.

Dr. Jacob Bleiberg of Beth Israel Hospital, Newark, reported on use of the new preparation in forty-two patients. He said, of sixteen cases with scalp psoriasis, thirteen cleared completely and three were greatly improved. Of the remaining twenty-six patients, six showed complete clearing of their psoriasis and another twelve greatly improved.

In his review, Dr. Samitz listed as without value the administration of vitamins, gamma globulin, pancreatic enzymes, or special diets. He pointed out that there is evidence that many psoriasis victims improve during the summer months and in warm, sunny places.

Mercury, salicylic acid, recorcinol, allantoin, sulfur, and detergents all have some action on the horny layer of the skin, Dr. Samitz said, adding that most of them, plus tar and podophyllin, act on the living epidermal cells. Steroids, he said, act on the inflammatory part of the disease, their primary function being to prevent oozing from the capillaries. Triamcinolone, a steroid hormone, is an effective new remedy and it may be employed in cases complicated by arthritis, or in cases severe enough to justify steroid therapy.

Nail Brittleness

Brittleness of the nails, a manifestation of fraying or peeling of the terminal portions of the nail plates, may be symptomatic of a score of disturbances, some associated with injury to the matrix, as is commonly found in a great many women in whom brittleness develops in the absence of any local or systemic abnormality. The first goal should be to try to determine whether there is any local disturbance present, such as something which has been applied to the nails. There may have been excessive manicuring of the nails, reaction to solvents used in nail polishes and lacquers, or sensitivity to detergents.

Some workers believe that these solvents have more of a dehydrating than defatting effect on the nails. The use of certain alkaline preparations by people who have their hands constantly in water, such as housewives and bartenders, is felt by some to be a primary factor in nail brittleness. Several observers have felt that gelatin given by mouth is helpful; however, Sutton feels that the underlying cause may be a hypoproteinemia. He feels that some of these patients need iron, thyroid, and estrogens, although the indications are rather ill-defined. There have been exacting studies made on some of the mineral and organic constituents of diseased nails. Calcium, which has long been undisputed in the treatment of certain nail conditions, was subjected to detailed study along with phosphorus and total ash content of the nail clippings taken from patients having hard and brittle nails, and it was found that there was no evidence that the brittleness or hardness of the nails was in any way related to calcium or phosphorus.

As far as minerals are concerned, an interesting observation by Dietz reveals that administration of fluoride is helpful in cases of onychosis. His studies were to the effect that patients who had nail delamination desquamation associated with dental caries responded with marked improvement to the administration of sodium fluoride tablets in six weeks to two months' time. The question of vitamins, lack of vitamins, or their utilization in the presence of brittleness of the nails has been described by some, and it has been found that the administration of vitamins A and D has been of considerable help. Vitamin A effects epithelization of cells, so that it is possible that in some cases it would be of definite help as far as brittleness of the nails is concerned.

The systemic causes of this abnormality are sometimes quite remote and may make difficult an absolute diagnosis. More knowledge of the

local chemistry of the nail plate is to be desired. Certain fatty acids, particularly cholesterol, appear to assist in maintaining the natural elasticity of the nails, and, of course, the use of an emulsified form of water should be of some assistance in maintaining more moisture in the keratin of the nail. —*J.A.M.A.* 166:-1798, 1958.

Zirconium Allergy

Walter B. Shelley and Harry J. Hurley (*Brit. J. Dermatol.* 70:75-101, 1958) reviewed the literature concerning the recently observed axillary eruption associated with deodorants and showed, experimentally and clinically, that deodorant granulomas result from a specific acquired allergic hypersensitivity to zirconium. The quantitative aspects of the allergy deserve special mention, since unbelievably small amounts of zirconium may elicit granuloma. As little as 0.2 microgram of sodium zirconium lactate was capable of producing a grossly visible skin lesion in a highly sensitized patient, so that the sensitized individual can respond to traces of an allergen well beyond the point which can be detected by present-day analytical procedures.

The affected patients almost uniformly give a history of using a zirconium-containing product for months prior to the sudden appearance of a papular eruption. Contact with the deodorant containing 4 to 8 per cent of sodium zirconium lactate provides the sentizing exposure. Nicks from shaving permit the soluble salt to enter the dermis; once the sensitivity state has been set up, application of zirconium to the skin results in delayed allergic granuloma formation.

"From the preventive standpoint, zirconium deodorant sticks should not be used by the general public. It must be recognized that this granuloma formation is a very rare development since literally millions of people have used the deodorant without untoward effect. The sensitizing potential of zirconium is clearly very low. Yet the granuloma formation is a very real phenomenon directly attributable to zirconium. At one time at least 30 American deodorant products contained zirconium. It would appear judicious to avoid topical zirconium not only in deodorant sticks, but probably also in the topical treatment of contact dermatitis."

"Our evidence indicates that this heretofore unrecognized allergic response to zirconium is due to the zirconium ion and not to any particular salt or to an impurity."

Over-The-Counter Prantal

Schering Corporation has announced that Prantal Cream is now available for direct sale to the public. The preparation is used in the topical treatment of minor skin disorders caused by poison oak, poison sumac and poison ivy. It has also been clinically used to control excessive sweating and itching.

Either in the case of Prantal itself or another anticholinergic proved safe enough for over-the-counter distribution without prescription limitation, this may well represent an important breakthrough in terms of physiologically active cosmetics.

In November 1955 in this magazine I wrote an article, "Physiological Deodorants" (which really should have been called Physiological Antiperspirants), advocating the search for anticholinergic compounds that would be effective and safe as topical antiperspirants. The release of Prantal for general use indicates that the major obstacle, proving safety, can be overcome. The research procedure then outlined might well be put into operation to produce a new product with enormous promotional glamor.

Skin Histamine

Marked variations in human skin histamine levels occurred in different skin regions according to H. H. Johnson, Jr. (*A.M.A. Arch. Dermatol* 76:726, 1957). The highest levels occurred on the upper lip and eyelid, with decreasing levels in the submental triangle, scalp, infraclavicular region, lower abdomen, and skin over the xiphoid cartilage.

In the skin of the scalp, the average level was 21.5γ per gram; the infraclavicular region 8.2γ per gram; lower abdomen 7.6γ per gram; over xiphoid cartilage 6.6γ per gram. Too few cases were available in the other areas for average levels.

Acid hydrolysis of human abdominal skin extracts produced a three-fold increase in histamine levels, using the microchemical method of determination.

The histamine levels by the microchemical method were comparable to pharmacologic methods reported in the literature. The latter showed a similar increase in histamine levels when acid hydrolysis methods were utilized.

Temaril Antipruritic

A new oral medication, "Temaril", which is dramatically and specifically effective in pruritus, has been introduced by Smith Kline & French Laboratories.

Chemically, the new agent is 10-(3 - dimethylamino - 2 - methylpropyl)-phenothiazine. In animal pharmacology, it has demonstrated antagonism to serotonin and to histamine. It has a blocking effect in conditioned-response tests, a property which apparently has a correlation with tranquilization in humans.

Originally synthesized by Rhone-Poulenc, "Temaril" has been clinically tested extensively in the United States over a period of two years.

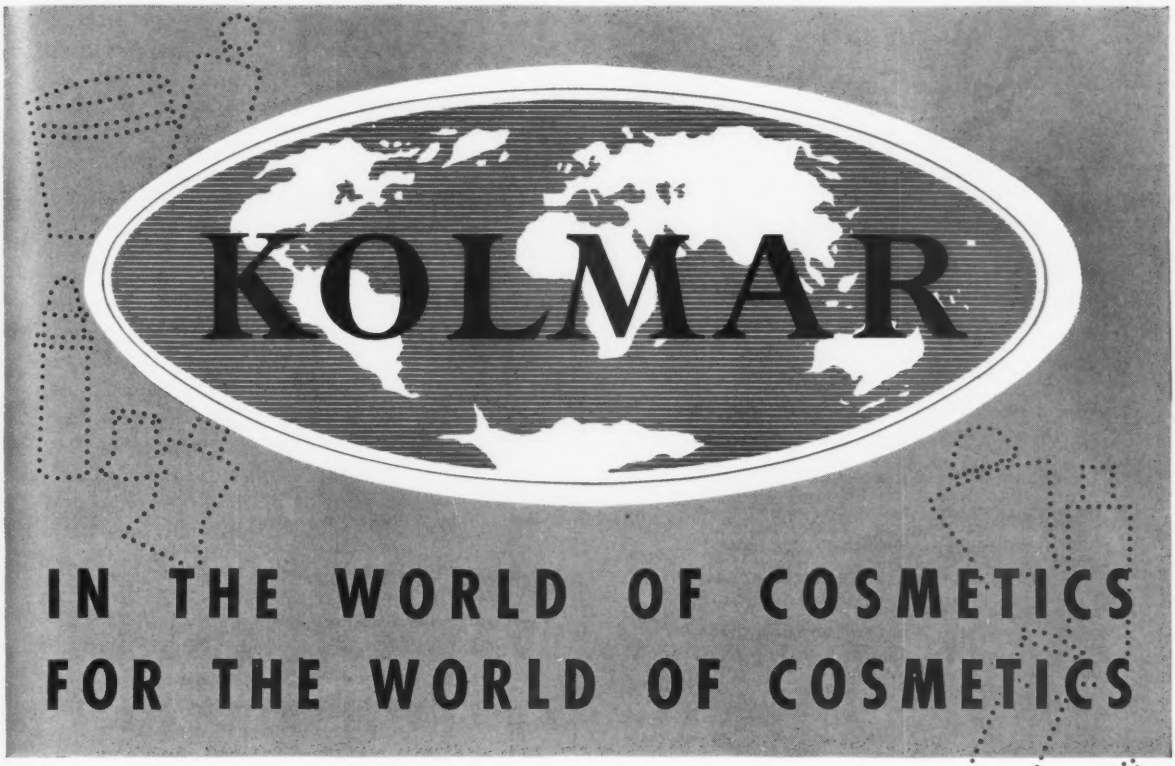
Activity was proven in more than 8000 cases before introduction, with excellent to good results reported in more than 70 per cent. Some of these patients had long histories—from one to 20 years—of conditions that had been partially or completely refractory to treatment with corticosteroids, antihistamines, and sedatives.

"Temaril" is supplied in bottles of 50 tablets, each containing 2.5 mg. of trimeprazine SKF as the tartrate salt.

Promyl (Crookes-Barnes) contains in each tablet 5 mg. pipenzolate methylbromide, 300 mg. aluminum magnesium hydroxycarbonate and 200 mg. aluminum proteinate. The preparation, for the control of ulcer pain, is available in bottles of 100 tablets. **Tropasyl** tablets contain the antacids without the anticholinergic.

Clistin- R-A 12 mg. (McNeil) contains the antihistamine carbinoxamine maleate 6 mg. in the outer coating for immediate action and 6 mg. in the inner core for delayed action. It is supplied as bottles of 50.

pHan (Sandoz) is a banana-flavored antacid-adsorbent containing in each tablet 450 mg. of aluminum hydroxide-glycine and 60 mg. magnesium oxide. It is supplied in bottles of 100 tablets.



IN THE WORLD OF COSMETICS
FOR THE WORLD OF COSMETICS

Kolmar is known through the world as originators, producers and packagers of highest-quality Private Label Cosmetics. Kolmar is directed by men who are entrepreneurs . . . true scientists, guided by Kolmar's basic policy to raise the level of cosmetic science.

On the large Kolmar staff are world-renowned skin physiologists, dermatologists, bacteriologists, other scientists, and in its world-wide laboratories, about forty chemists. Many of the famous leading cosmetic products have been developed by Kolmar. Precise laboratory control and extensive manufacturing facilities give Kolmar Products unfailing quality and uniformity . . . ready public acceptance.

We will gladly consult with you about the development of products to meet your specific requirements.

PROGRESS, QUALITY AND SERVICE ARE TRADITIONAL WITH KOLMAR

Strategically located manufacturing plants in United States, Canada, Mexico and many other countries throughout the world.

REPRESENTATIVES: DOUGLAS HAGGERTY; THOMAS LA PRELLE, EASTERN SALES MANAGER, EMPIRE STATE BLDG., ROOM 605, NEW YORK, N. Y., WARREN M. CURRY, 599 PLUM ST., N. W., ATLANTA, GA., NORMAN L. KOLE, 11 E. DELAWARE, CHICAGO, ILL., J. C. WEILER, 115 No. MERAMEC, ST. LOUIS 5, MO.; R. F. G. BYINGTON, 1260 N. WESTERN AVE., LOS ANGELES, CALIF.; RICHARD F. SPICKER, P. O. BOX 6, CINCINNATI 30, O.; NEW ENGLAND, F. GILBERT McNAMARA, 226 FULLER ST., W. NEWTON, MASS.

Kolmar LABORATORIES

Milwaukee 2, Wisconsin

PRIVATE LABEL COSMETICS EXCLUSIVELY

KOLMAR COSMETIC SPECIALTIES, INC., (Complete Package Division) • KOLMAR INTERNATIONAL, INC. • WICKHEN PRODUCTS, INC., CHEMICAL AFFILIATE

PLANTS IN PORT JERVIS, NEW YORK; MILWAUKEE, WIS., AND IN HOLLYWOOD, CALIF.; CANADA: KOLMAR OF CANADA LTD., BARRIE, ONTARIO, CANADA; KOLMAR DE MEXICO, S. A., MEXICO, D. F.; KOLMAR (AUST.) PTY. LTD., KING ROAD, HORNSBY, SYDNEY, AUSTRALIA; KOLMAR EUROPE, 39 AV. FRIEDLAND, PARIS 8, FRANCE; ENGLAND: KOLMAR COSMETICS (ENGLAND) LTD., EAST GRINSTEAD (LONDON), ENGLAND; KOLMAR KOSMETIK (DEUTSCHLAND) G.m.b.H. OFFENBACH, GERMANY.

Amerchols®

LANOLIN CHOLESTEROLS in their most active form.

The Amerchols are non-ionic, natural EMULSIFIERS, PENETRANTS and EMOLLIENTS made from pure lanolin. They will help you achieve superior cosmetic and pharmaceutical formulations by markedly improving stability, texture, appearance and effectiveness.

An Amerchol such as multi-sterol, liquid **Amerchol 101** enhances softening, penetrating and spreading activity while holding desirable moisture to the skin. The surface active Amerchols function at the interface in oil-in-water emulsions to bring about these unique effects on skin and hair.

The Amerchols are ideal, stable ointment bases which induce rapid drug release, and promote optimum healing rates.

WE KNOW OF NO CASE OF AN ALLERGY DUE TO AN AMERCHOL.

American Cholesterol Products
INCORPORATED
AMERCHOL PARK EDISON, NEW JERSEY

Write on your business letterhead for technical literature and suggested formulas.

Reader's Questions . . .

Cologne and Perfume Sticks: *I would like to formulate cologne and perfume sticks and would appreciate any suggestions you may have to offer. I am especially interested in the transparent sticks that seem to contain a minimum of alcohol and do not dry out as quickly as the usual sticks.* ROCHESTER

The older style cologne sticks are made from 6 to 8 per cent of sodium stearate, 2 to 4 per cent of glycerin or propylene glycol, the rest being alcohol with as little added water as possible. Perfume oil should be about 5 per cent and may be much higher. The sticks are made by heating powdered neutral sodium stearate with the alcohol and glycol or glycerin until solution, taking precautions, such as reflux equipment, to diminish loss of alcohol by evaporation. The perfume oil is stirred into the solution which is then poured into molds or containers. The sodium stearate may be made in situ by dissolving stearic acid in the solvents and then adding a concentrated solution of sodium hydroxide to form the soap. A few drops of phenolphthalein solution are added to the batch as an indicator, the alkali added to a persistent pink color and then just enough stearic acid added to discharge the color. Excess of alkali will adversely affect the perfume, too much free stearic acid may reduce transparency of the stick. The quality of the stearic acid is important as regards transparency.

The higher melting, less volatile perfume sticks contain considerably more sodium stearate and a mixture of glycols and polyglycols instead of alcohol. From 10 to 12 per cent of sodium stearate should be used along with 25 per cent of propylene glycol, 50 per cent of polyethylene glycol 300 or 400 and about 15 per cent of perfume oil. The mixture, without the perfume oil, is heated until a clear solution is formed at about 85 to 90°C. About 10 per cent of water may be included to facilitate solution, but the mixture should then be maintained at 90° for a while for at least partial evaporation of the water. The perfume should be mixed with the batch just before molding to reduce evaporation and prevent possible burnt odors.

(*Continued from page 666*)

are legally considered to be "self-serving" and are of very little use in legal contests unless corroboration exists. Jackson has emphasized in this connection that "inventors lose their rights as first inventors more because of lack of corroboration than because of inadequacy of the content of the records themselves" (7).

What are the characteristics of satisfactory witnesses? A satisfactory witness is one who is "disinterested" personally in whether the patent issues and, additionally, is competent in the subject matter involved. If a witness stands to benefit directly from the issuance of a patent, his value as a witness is minimal. Therefore, it follows that joint or co-inventors are of no use as witnesses, and family members, by the same token, are to be avoided. (A fellow employee who is not a co-inventor *is* considered to be "disinterested" and, hence, can be a satisfactory witness.)

For obvious reasons, the value of a witness is also directly related to his degree of comprehension of the subject matter being witnessed. A witness who fully appreciates the *significance* of the witnessed material can believably recall and interpret this material some time after the actual witnessing and consequently can provide testimony with high probative value. Incidentally, it is extremely naive to attempt to satisfy the contradictory goals of disclosure for corroborative purposes while, *at the same time*, attempting to preserve secrecy by choosing a witness who does not understand the subject matter and, hence, cannot divulge the invention. Such a witness is valueless in providing credible testimony.

Corroboration of "Conception of Invention": Witnessing of Laboratory Notebooks And Written Disclosures

It is at this point in our discussion that it becomes essential to consider the corroboration of the "conception of invention" separately from corroboration of "reduction to practice". But first let's discuss these two component parts of every invention.

The two basic requirements of an invention are the conception and its subsequent reduction to practice. Although the conception—which is a mental act—is the really inventive step, an invention does not legally exist until the conception has been successfully reduced to practice. Two distinct, although not alternative, mechanisms exist for achieving a legally recognized reduction to practice:

(1) *The* actual *reduction, involving the action required to demonstrate by physical embodiment the operability of the conception, and, hence, the completion of the invention.*

(2) *The* constructive *reduction, achieved, by legal definition, by the act of filing a patent application.*

(*Continued on page 683*)

Modulan®

The MODIFIED LANOLIN with new properties.

Modulan is the acetyl derivation of pure lanolin containing all the constituents of lanolin, modified by a unique treatment to impart NEW and VALUABLE PROPERTIES. (U. S. Patent No. 2,725,334)

Modulan forms clear solutions even in cold mineral oil and deposits hydrophobic, emollient films on skin and hair. These desirable protective films are waxy rather than tacky and are very pleasant to the touch.

Modulan is extremely hydrophobic—does not form greasy emulsions and is practically odorless. Because of its outstanding stability and compatibility with oil-in-water emulsions and with soaps and shampoos. Modulan is particularly recommended for use in creams, lotions, baby products, hair preparations, make-up, and ointments.

CLINICAL INVESTIGATIONS HAVE INDICATED THAT MODULAN IS HYPO-ALLERGENIC.

AMERICAN CHOLESTEROL PRODUCTS, INC. AMERCHOL

American Cholesterol Products
• INCORPORATED •
AMERCHOL PARK EDISON, NEW JERSEY

• ACETULAN™—*a new chemical design for cosmetics—COMING SOON!*

New Drugs of 1957* (*Conclusion*)

BY L. F. TICE, ASSOCIATE DEAN AND DIRECTOR OF THE DEPARTMENT OF PHARMACY, PHILADELPHIA COLLEGE OF PHARMACY AND SCIENCE.

In the field of biologicals, much attention was given in 1957 to the program for the development of a monovalent vaccine for the new Asian strain of influenza. As production meets demand, the trend is to supplant the monovalent vaccine with a polyvalent product containing this new strain in addition to the several others known to cause influenza outbreaks.

It has also been possible to double the potency of the monovalent vaccine increasing it to 400 chick cell agglutination units (CCA-units) per ml. This increases its prophylactic efficiency.

The acute respiratory and conjunctival infections caused by adenoviruses has been given considerable attention in recent years. These viruses are also called the APC viruses (adenoidal, pharyngeal, conjunctival) and they cause considerable illness and absenteeism in schools and industry. A prophylactic vaccine against this acute respiratory infection is now available as Adenovirus Vaccine (Parke-Davis). It gives protection against types 3, 4, and 7 of the virus. The dose is 1 cc. intramuscularly.

The treatment given those exposed to rabies was originally developed by Pasteur. While such an antirabies vaccine is fairly effective, it has frequently caused serious paralytic complications in the patient, sometimes resulting in death. A new rabies vaccine is now available with the virus having been grown on duck embryo tissue. After growth, the virus is killed by the addition of β-propiolactone which is a potent virucidal agent. It is completely free of the paralytic factor, the hazard present in vaccine prepared by growing the virus on the brain tissue of rabbits. The vaccine is injected subcutaneously once each day for 14 days and is used to prevent rabies in exposed persons. In this connection, it should be remembered that one need not be bitten by a rabid animal to contract rabies. Inoculation with the saliva through a cut or abrasion is all that is required. The extent of exposure and the location of the inoculation site is of great importance. If a person is bitten around the face or neck, it is probably advisable to use a rabies antiserum for passive immunization and protection until the use of rabies vaccine can give an active immunity.

New Nitrogen Mustard

A new potent anti-leukemia drug related to the nitrogen mustards is the drug Chlorambucil (Leukeran—Burroughs Wellcome). Chemically, it is *p*-(di-2-chlorethyl) aminophenylbutyric acid. It is indicated in the treatment of chronic lymphocytic leukemia, malignant lymphomas, and Hodgkin's disease. Like all such drugs, it produces only a remission of the disease and is not curative. Leukeran, however, does not seem as toxic to the hematopoietic system as other drugs in this class. It is available as a 2mg. tablet. Dosage schedules and precautions must be read and followed by the physician very carefully for this very potent drug as with all anti-leukemia agents.

Endocrines

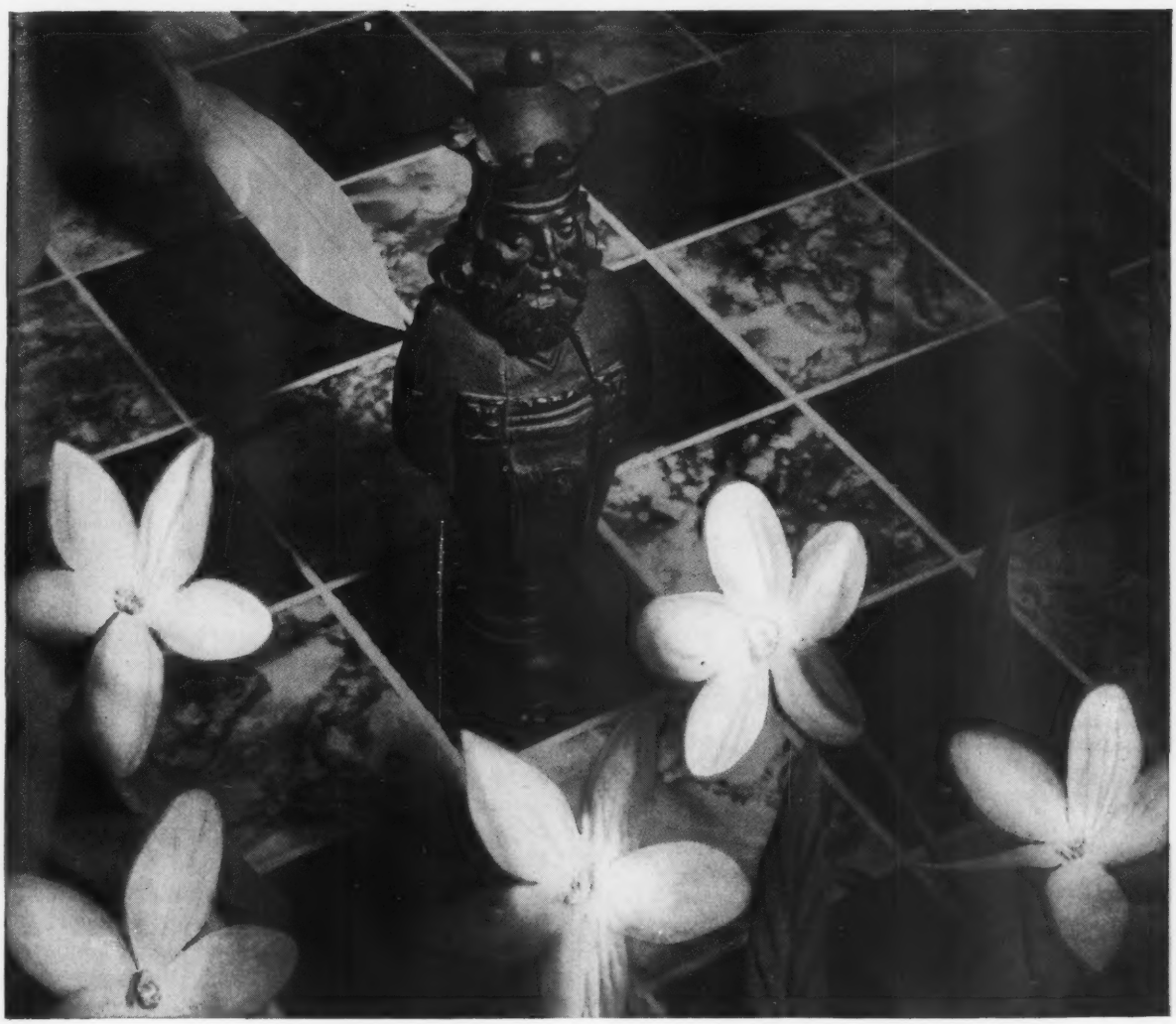
It is now believed that thyroxine is altered in the body forming *l*-triiodothyronine which is the substance directly responsible for the regulation of cellular metabolic activity. The substance *l*-triiodothyronine was first isolated from thyroid extract using paper chromatography. It is now made in quite pure form synthetically. It is known as Liothyronine and supplied as Cytomel (Smith, Kline & French). The racemic form (dl) is sold as Trionine (Roche). Triiodothyronine has a much more rapid onset of action than thyroid or thyroxine and a shorter duration of action. This permits better control of its dosage and action. It is used for the same therapeutic purposes as powdered thyroid or thyroxin.

The principle behind "lente" insulin is the precipitation of zinc insulin in an acetate buffer in a manner to carefully control its particle size. This new type of repository insulin avoids the use of proteins such as globin and protamine; yet, it provides a long-acting effect on injection. Lente Insulin as originally supplied in the U. S. (Lente Iletin—Lilly) was very similar in onset and duration of action to NPH insulin (Isophane Insulin Injection U.S.P.). The Danish workers originating "lente" insulins prepared several types differing in particle size and, therefore, in duration of action. In fact, by admixing different particle sizes, the onset and duration of action can be very nicely controlled.

Two new "lente" insulins released in the U. S. by Lilly are the Semi-Lente Iletin and the Ultra-Lente Iletin. The former contains smaller particles than Lente and has a duration of action less than Lente, being only 12-16 hours. Ultra-Lente is made up of larger particles and has a duration of action of 36 hours or longer. All are supplied in 10 cc. vials containing 40 or 80 units/cc.

While not an endocrine, the use of sulfonylureas orally in the control of diabetes mellitus deserves comment here. The drug, Carbutamide, was withdrawn from clinical trial in 1957 because of toxic effects which were reported. A very close relative, Tolbutamide (Orinase—Upjohn), did not show similar toxicity and after extensive clinical trials was

*Reprinted from The American Journal of Pharmacy, Philadelphia, Pa., U. S. A. Volume 130, Pages 4 to 26, January, 1958.



Jasmonis

King of the Jasmin Specialties

A unique and outstanding Givaudan creation, JASMONIS reigns supreme as a jasmin specialty.

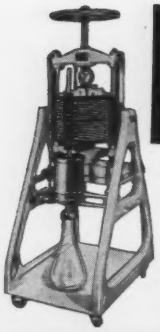
It blends beautifully with natural jasmin, enhancing its strength and exalting its freshness and top note.

Used alone in the creation of a new perfume, it not only provides a fragrance of true jasmin quality but adds a fresh and original note of its own.

Seldom has any specialty enjoyed such wide and enthusiastic acceptance...for originality, high quality and consistent uniformity. We invite your inquiries regarding JASMONIS.

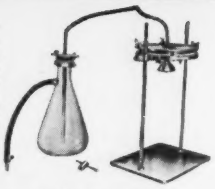
GIVAUDAN

GIVAUDAN-DELAWANNA, INC.
321 West 44th Street, New York 36, N. Y.



ERTEL
PYROGEN & BACTERIAL RETENTIVE FILTERS

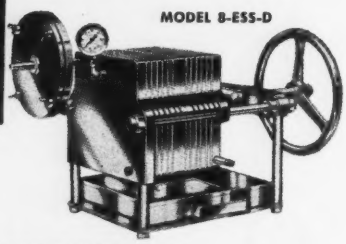
Ertel Model EDB Filter, at left, for commercial production, the special Laboratory Filter, at right, and Model 8-ESS-D, below, represent part of the most complete line of these highly specialized filters.



For safeguarding saline & dextrose solutions, preparations for whole blood & blood plasma, penicillin & other intravenous solutions.

Ertel Pyrogen Retentive Asbestos Filter Sheets are the accepted standard throughout the world.

MODEL 8-ESS-D



Write for fully illustrated bulletins describing bacterial retentive type filters

ERTEL ENGINEERING CORPORATION

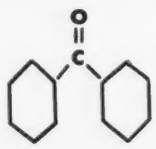
KINGSTON 1, NEW YORK

Branch Office & Showroom Located in New York City

COMPLETE LINE OF *Liquid Handling Equipment*

ERTEL Since 1932

Benzophenone



MELTING POINT . . . 47.0° -48.5°C

ODOR . . . Rose-geranium type

Available in commercial quantities for prompt shipment. Samples on request.

MANUFACTURED BY

gamma chemical corporation

GREAT MEADOWS, N. J.

SOLE SALES AGENTS

Fisher chemical co., inc.

220 E. 42nd STREET, NEW YORK 17, N. Y.

MUrray Hill 2-2587

CABLE ADDRESS: PHARCHEM

released for prescription use. It is interesting to note that the only difference in structure between the toxic Carbutamide and the drug Tolbutamide is that the former has an amino group on the benzene ring while, in the case of Tolbutamide, it is replaced by a methyl group.

Tolbutamide (Orinase—Upjohn) is 1-butyl-3-*p*-tolylsulfonylurea. It is available as 0.5 Gm. tablets. It has given evidence of being useful is selected cases of diabetes. For example, it will control blood sugar when taken orally in most diabetics who contracted the disease when adults. In children, it is rarely or never of value. This, it is believed, is because it depends for its action on the presence of some functioning beta cells in the pancreas which are capable of secreting insulin. Current belief is that the drug stimulates the beta cells to greater insulin production. Even in adults, if the diabetes is severe and requires more than 40 units of insulin a day, Orinase is not likely to be effective. In many cases, however, it can be used in place of insulin and some authorities believe over half of all diabetics could use it with success. The dose must be regulated according to the patient's needs. The maximum, when beginning therapy, is 3 Gm. daily and the maintenance dose varies from 0.5 to 1.5 Gm. daily.

The synthesis of both vasopressin and oxytocin, the two hormones of posterior pituitary, was announced by DuVigneaud only a short time ago. Synthetic pure oxytocin is now available as Syntocinon (Sandoz). It has the advantage over the natural product isolated from posterior pituitary that it is completely free of foreign protein and contains none of the associated principle vasopressin. It is supplied in 1 cc. ampuls containing 10 international units and 0.5 cc. ampuls containing 5 units.

Blood Modifiers

A new injectable iron preparation that appears to be quite superior to most others is one consisting of a Dextran-Iron complex. It is supplied as Imferon (Lakeside). Each cc. supplies the equivalent of 50 mg. of elemental iron and the product is injected intramuscularly. In making the intramuscular injection, the upper skin layers should be pulled laterally before inserting the needle. This prevents staining the subcutaneous tissue which might be somewhat permanent should it occur. This new product avoids the necessity of the intravenous route required by some iron preparations such as those containing saccharated iron oxide.

Calculation of a patient's iron needs can be made based on the hemoglobin per cent and a course of therapy instituted to assure this amount being made available. Imferon is supplied in 2 and 5 cc. ampuls.

Two new anticoagulant drugs are Acenocoumarin (Dipaxin-Upjohn) and Sintrom (Geigy). Dipaxin is 2-diphenylacetyl-1, 3-indandione. Its action is one of

long duration similar to that of bishydroxycoumarin. It is supplied as 1 mg. and 5 mg. tablets. Sintrom is 3 - (α - acetonyl - 4 - nitro - benzyl) - 4 - hydroxy - coumarin. Sintrom has an intermediate duration of action lying between that of bishydroxycoumarin and Tromexan (Geigy). Its action can be reversed in 24-48 hours by cessation of therapy. Sintrom is suplied as 4 mg. tablets.

Anticoagulant therapy once employed largely as a prophylactic procedure following surgery to prevent thromboembolism is now widely employed in selected cases of congestive heart failure, cardiac vascular surgery, coronary thrombosis, thrombophlebitis, and other conditions where the hazard of a thromboembolism exists.

A drug combination to prevent and control bleeding is the preparation Adrestat (Organon). This contains adrenochrome semicarbazone (as the salicylate), sodium menadiol diphosphate, hesperidin, and vitamin C. This combination is for oral use; whereas, Adrestat (F) is an injection product containing only adrenochrome semicarbazone (as the salicylate).

The oral product is available in lozenge and capsule form.

Prior to and after surgery, the oral product is used for several days. This is accompanied by the use of the injection product just before surgery.

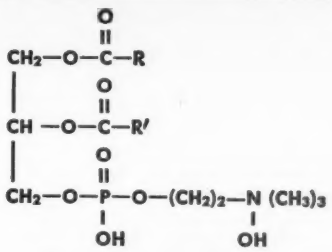
The adrenochrome semicarbazone is said to act by causing the retraction of severed capillary ends and making them less fragile to trauma. The function of the other components of the oral product is to stimulate prothrombin formation and correct capillary fragility.

Unsaturated Fatty Acids

Very extensive research has been conducted in the past few years on the effect of diet on blood cholesterol levels and the incidence of atherosclerosis. Considerable evidence points to the role of saturated fats (animal) as contributing to hypercholesterolemia and atherosclerosis when they are consumed in sizable amounts. On the contrary, unsaturated fats such as found in certain vegetable and fish oils seem to have a protective action beyond that which might be expected just by substituting them for animal fats. The protective action is believed to be contributed by the unsaturated fatty acids present in the constituent glycerides. The mechanism of their action, as postulated by some workers, is that, when present in the lipoprotein complex containing the cholesterol, the unsaturated fatty acids improve its mobility and transport thus retarding its deposition in the intima of blood vessels and the formation of an atheromatous plaque.

A number of products containing unsaturated fats have been released recently for use in hypercholesterolemia associated with atherosclerosis or where it is believed to suggest the possible development of

Chemists!
Technologists!
Test Your Know-how



How many uses for
Sta-Sol®
Lecithin Concentrate can you name?

Whether as an emulsifier, antioxidant, penetrant, or wetting agent, Staley's Sta-Sol Lecithin concentrate has already proved its versatility. The partial listing below will give an idea of Sta-Sol's wide utility range:

Leather Processing—penetrating and softening agent.

Paints—retards settling and hardening of pigments—prevents "flooding" and streaking.

Pharmaceuticals—antioxidant for Vitamin A.

Bakery Goods—emulsifier—antioxidant—softens texture—reduces stickiness of doughs—prolongs shelf life—improves fat distribution.

Candy & Chocolate Coatings—reduces viscosity, increases coating capacity, less stickiness, retains moisture, lowers surface tension, improves texture and appearance.

Printing Inks—reduces grinding time, promotes better wetting and dispersion of pigments.

Shaving Creams—increases wetting power of lather, makes beard softer, gives smoother, more "painless" shave.

Skin Lotions, Cosmetics, Beauty Soaps—softens and soothes skin, reduces irritation, increases cleansing power, stabilizes and improves lather.

Gravies-Sauces—prevents fat separation.

Peanut Butter—antioxidant—stabilizes flavor.

Can you add other uses to this list? If you're in need of a more efficient, more economical emulsifier antioxidant, penetrant or wetting agent—get all the facts about Sta-Sol. See your Staley representative today.

A. E. Staley Mfg. Co.
Decatur, Illinois
Branch Offices: Atlanta • Boston
Chicago • Cleveland • Kansas City
New York • Philadelphia
San Francisco • St. Louis

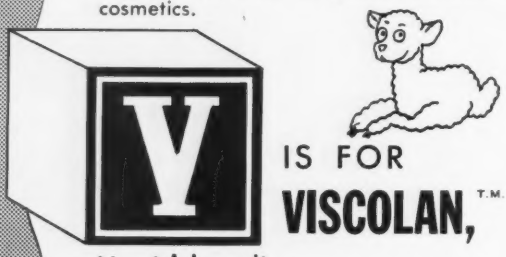
Staley's

IS FOR

CHOLESTEROL U.S.P.,

Derived from lanolin,
Pure and free.

CHOLESTEROL — Our Cholesterol is U.S.P. quality and better. It is suitable for the most exacting purposes in pharmaceuticals and cosmetics.

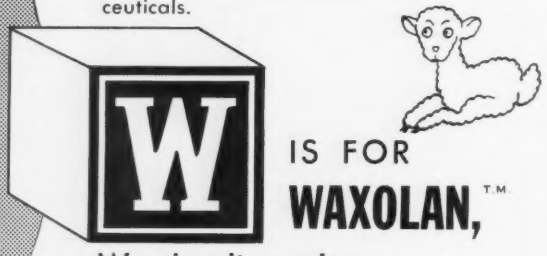


IS FOR

VISCOLAN,™

Liquid lanolin pure,
Dewaxed, deodorized,
Best for sure.

VISCOLAN is liquid lanolin at its best — clear, free of objectionable odor and color, uniform in quality. It meets TGA specifications for liquid lanolin. VISCOLAN is oil soluble and excellent in aerosols, cosmetics, and pharmaceuticals.



IS FOR

WAXOLAN,™

We sing its praises,
Adds gloss and stability,
Melting point raises.

WAXOLAN is a clean hard wax separated from pure lanolin. Use it as an emollient and for gloss, grooming effects, raising m.p. and viscosity.

Here are three lanolin derivatives which can't be beat for quality and price.

Write to our Research Laboratories for additional information, samples and suggested formulations.

American Cholesterol Products
• INCORPORATED •

AMERCHOL PARK — EDISON, N. J.

atherosclerosis. One of these products is Linodoxine (Pfizer) which is available both in capsules and as an emulsion. This contains safflower oil, a rich source of unsaturated fatty acids, and pyridoxine hydrochloride. The latter is claimed by some to be involved in the conversion of linoleic acid to the protective fatty acid arachidonic.

Another similar product is Arcofac (Armour) which is also supplied as an emulsion. The product Staff (Abbott) is also an emulsion of safflower oil.

Lufa Capsules (U.S. Vitamin) in addition to safflower oil and pyridoxine contains the lipotropic factors methionine, inositol, and choline bitartrate.

Lenic Capsules (Crookes-Barnes) is another such product and is also supplied with 100 mg. of niacin. The latter (niacin), in large doses, has also been reported as having a blood cholesterol reducing action.

More products in this category are certain to be developed and promoted, particularly if clinical experience with those now available shows them to be useful.

Diagnostic Aids

Sodium radio-iodide is now available as a finished pharmaceutical for both diagnostic procedures and therapy. The use of I^{131} as a means of determining basal metabloic rate is claimed to be much more accurate than the usual method. For such a diagnostic procedure two forms are available: Radiocaps (Abbott) and Tracervial (Abbott). The former are empty gelatin capsules with carrier-free sodium radio-iodide adsorbed on the inner walls. On successive weeks, they are made in different colors to help the user distinguish different lots. Using one capsule as the standard, another is administered to the patient and the per cent taken up by the thyroid measured after a stated time interval. For example, hyperthyroid patients will have over 50 per cent taken up by the thyroid at 24 hours and hypothyroids less than 10 per cent. The diagnostic dose given is 5-50 μc. For those preferring a liquid product, the Tracervial can be used. This is a solution containing on the day of calibration 25 μc of activity/cc. For therapeutic use in thyrotoxicosis (toxic goiter) and thyroid neoplasms, a sterile solution for injection is supplied (Sterile Sol. Therap.—Abbott), an oral solution (Oriodide—Abbott), and capsules (Theriodide—Abbott). The dose, of course, must be very carefully estimated and measured taking into account the age in days of the product and its decay rate. Care must also be taken to protect all personnel handling the therapeutic material.

A new method to determine the acid secretory function of the stomach eliminates the need for the use of a gastric tube to obtain gastric fluid. The test utilizes the Diagnex Blue Unit (Squibb). In this test, gastric secretion is stimulated by the administration of caffeine sodium benzoate on a fasting stomach. One hour later, the Diagnex Blue granules are given

suspended in ¼ glass of water. These contain azure A dye adsorbed on an exchange resin. In the stomach, the blue dye is released by acid, hydrogen ions being exchanged for the dye. The dye is then excreted in the urine where it can be measured by visual comparison with color standards.

A new organic iodine preparation for intravenous urography is sodium and methylglucamine diacetylamino triiodobenzoates (Renografin—Squibb). Renografin is reported to give excellent opacifications after 10-15 minutes following the intravenous injection of 20 ml. of the solution. A 1 ml. test dose is supplied in the package to test the patient for sensitivity. This is standard practice for all such organic iodine preparations to be given intravenously.

EXPECTATIONS IN CANCER CHEMOTHERAPY

(Continued from page 605)

Consequently, we are putting much effort in searching for a system that bears a direct and consistent relationship to the response of human cancer, are improving screening system wherever possible, and have initiated research on new tumors and techniques. Some of these are: Human tumors in the embryonated egg and in heterologous mammalian hosts, additional animal tumors, combination screening, microbiological screening, and tissue culture screening.

After preclinical pharmacological testing on active compounds, and after the compound has been found safe for human use, it goes into clinical trial.

The cooperative clinical studies stimulated by the Cancer Chemotherapy National Service Center are designed to answer definitively a few questions in each study. The clinical study, in consequence, should serve the purposes of (a) rapidly and intelligently eliminating materials of little or no use; (b) determining the types of cancer that are susceptible to the agent; (c) defining the optimal use of an agent against a specific tumor; (d) comparing the effectiveness of different agents. In addition, information should be obtained that will a) provide a basis for correlation with animal studies in order to find those animal systems that have a high predicting value for effectiveness in human tumors, and b) provide leads to chemists and theoretical biologists, so that new and different materials can be synthesized and reasonable and fruitful theories of the biology of cancer can be developed.

The development of a cooperative clinical study group under the program is based on encouragement from the Service Center and the spontaneous interest of a group of clinicians who feel that certain specific questions require answers and that the number of patients at one medical center is inadequate to provide such answers. Although cancer is common, many specific forms are not. Therefore, pooling of

NEW, AUTOMATIC, HIGH-SPEED
PLASTIC TUBE
FILLER SEALER EJECTOR
by COLTON

1. Fills, seals, ejects in continuously indexing automatic operation.
2. Handles any tube that can be heat sealed, standard and heavy wall, with equal efficiency.
3. Single: up to 60 tubes per min. 2″ x 7⅞″ max. Twin: up to 120 tubes per min. 1″ x 7⅞″ max.
4. Exact, money-saving volumetric filling of pastes, creams, liquids.
5. Absolutely clean operation; no tube wiping.
6. Your present Colton filler heads No. 17 TF and No. 175 can be adapted to use on this new unit, offering important saving in updating your equipment.

More tubes have been filled on Colton equipment than on all other equipment combined. The benefits of this engineering background and field experience covering many and varied products and extending over nearly three quarters of a century are embodied in this new Colton No. 172 which offers the highest performance and efficiency yet achieved in plastic tube handling.

Write for specification sheet No. AC-55

ARTHUR COLTON COMPANY
3597 E. Lafayette
DETROIT 7, MICHIGAN

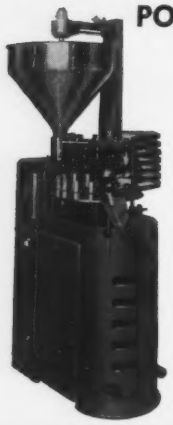
KALIX-DUPUY

AUTOMATIC TUBE FILLING, CLOSING & CRIMPING MACHINE

AVAILABLE with INTERCHANGEABLE HEADS for SEALING POLYETHYLENE & METAL TUBES

Simplicity ★ Lower Price

Immediate Delivery!



★ 120 Gross Daily—One Operator.
★ 15 Minutes to Change Size. Very low Change cost.
★ Quickly Cleaned — No Hose — Fills Tubes, Jars or Cans.
★ Accurate Fill—No drip—No smearing—No air.
★ Handles all metal tubes. Model RV-7 from ⅜" to 1½" diam. x 7½" high. RV-10 from 1" to 2½" diam. x 12" high.
★ Two-fold—Three-fold or Quadruple fold on RV-7. Two-fold or Three-fold on RV-10.
★ No tube—no fill. Coding jaws—Automatic Ejector.
★ Cap Tightener.
★ Stainless Steel Contact Parts.
★ Fully guaranteed — Replacement parts and service readily available.

WRITE FOR DESCRIPTIVE FOLDER AND PRICES

COMPLETE SERVICE and PARTS FROM STOCK

HARING EQUIPMENT Corp.

EXCLUSIVE KALIX-DUPUY DISTRIBUTOR

293 FRELINGHUYSEN AVE.
NEWARK 12, N. J. • TAlbot 4-0025

A PERFECT HOST FOR YOUR CONVENTION

The JEFFERSON, one of Atlantic City's finest modern hotels, is spendidly equipped to be a gracious and efficient host to the requirements of your convention group. Auditorium with stage, ample meeting halls, display rooms, private dining rooms all combined and with complete hotel service and a selected personnel to cater to your wants.

For Special Rate Plan with Illustrated Folder—Address Convention Manager

HOTEL JEFFERSON

Atlantic City New Jersey

patient material is usually necessary for a definitive study. Eighteen such cooperative study groups have been formed, representing over 165 hospitals located in all sections of the country. The protocol for each study is developed by the participating physicians. Twenty-five steroids and nineteen other synthetic compounds are now under study. Allocation of patients to the treatment and the nontreatment groups (or to additional groups if more than two treatments are under study) is made by random selection so that the two groups will be initially equivalent.

Today there are a number of drugs useful in treating certain forms of neoplastic disease. Most were introduced into the clinic on the basis of laboratory findings of growth-inhibitory effects in one or more experimental neoplasms.

Generally speaking, the active drugs fall into three categories: hormones, alkylating agents, and antimetabolites.

The alteration of endocrine environment as a major approach in chemotherapy is very interesting. In conjunction with castration, the sex hormones are extremely useful in the treatment of certain carcinomas that are still hormone dependent. Studies are now in progress to discover more active steroid analogs with fewer and less severe side effects.

The alkylating agents, being general cell poisons, have clinical limitations because they affect both normal and malignant cells. In general the drugs in this group of anticancer agents have selective toxicity for rapidly proliferating cells, and have been efficacious in the treatment of cancer of the hematopoietic system, the intestinal tract, and the gonads. But their toxicity to the normal marrow prevents adequate dosage in many cases and gastrointestinal disturbances are often seen.

Antimetabolites are assuming special importance. These compounds are aimed at blocking the biosynthesis or function of certain essential metabolites, and of nucleic acids and their components, materials essential to the division and growth of cells, whether normal or malignant. By using compounds sufficiently similar in structure to the normal intermediates of nucleic acid synthesis, chemicals can be incorporated into the partially synthesized nucleic acid that will block further build-up of the molecule or of its purine precursor.

Since the metabolites are required by all cells, the antimetabolites are injurious in proportion to the rate of cell growth. Similarly, the alkylating agents are toxic to cells in proportion to growth rate. Neither class of agents is specific for cancer cells, so each is most effective against cancers such as leukemia where the growth rate of the cells is high relative to that of many normal tissues. This problem of toxicity as well as that of the development of resistance is one of the most outstanding in the clinical use of anticancer agents.

Of all areas now under study the largest number of

potentially active compounds has been found in the antibiotic culture filtrates, or "beers". Approximately 1 percent inhibit tumor growth in mice, and upon retest and refermentation, the positives still represent ¼ to ½ percent. This number, of course, includes many duplicates of already known active compounds.

However, although the activity rate is high, there are countless problems concerned with isolating the active compounds and making them available for further work. For this reason, much attention is needed on the development of methods of recognizing active compounds without the expenditure of the large amounts of material necessary for testing in mice.

Through basic research on the mechanism of action of these active groups of compounds, and on the exploitable biochemical differences between normal and malignant cells, we hope that we will eventually be able to tailor-make compounds which will selectively inhibit the growth of cancer cells without toxicity to the normal cell.

In a drug-development program of this magnitude, the help and cooperation of industry is of primary importance. In industrial laboratories a new lead can be followed rapidly, thoroughly, and efficiently to the stage of a useful product available to the practicing physician. The part that we would like industry to play in this program includes:

1) Supplying large stocks of untested new chemicals, which serve as sources of new leads.

2) Supplying antibiotic "beers" in very large numbers.

3) Providing facilities, know-how, and integrated teams of specially trained personnel to develop and follow up leads. This involves activities such as (a) screening of substances for new leads: (b) synthesis and comparison of series of new chemicals closely related to those that have been found active; (c) purification, isolation, and production of antibiotics from crude "beers"; (d) adaptation of test-tube techniques to large-scale production; (e) batch production, formulation, and toxicity testing of agents for clinical trial.

What, then, are our "Future Expectations in Cancer Chemotherapy"? The Cancer Chemotherapy National Service Center and its advisory Panels and Committees are operating this tremendous crash program to find new drugs effective in cancer. I have no doubt we will discover them. We will find new, effective antibiotics, and new antimetabolites with a greater margin of safety than those in use today. Certainly new types of active compounds will come out of our random screening of synthetics, supplied by both pharmaceutical and university laboratories.

I strongly suspect that each of these new drugs will be effective against a relatively small proportion of the diseases known collectively as "cancer". But each of these successes, added to the previous

ENCAPSULATE
Your New Formulation!
One piece hermetically sealed soft gelatin capsules can well be the answer to —
Technical problems relative to your product's stability, dosage or usage form, packaging, and the like.
Increasing your sales by reason of their consumer attraction.
We have qualified personnel and extensive modern laboratory facilities available to implement the development and production of your special formula in soft gelatin capsules.
We sell capsules in bulk only to qualified manufacturers and distributors.
Your inquiry is invited.
Encapsulations Inc.
509 MADISON AVE., N. Y. 22, N. Y., PLaza 9-5880
GELATIN CAPSULE MANUFACTURERS

American

Aromatics

Perfume Compositions
Essential Oils
Aromatic Chemicals

24 East 21st Street, New York 10, N.Y.
GR7-6313

CHARLES B. CHRYSTAL
CBC
MINERALS, CLAYS, COLORS
1897
NEW YORK

U.S.P.
IMPORTED
FRENCH PROCESS
GOLD SEAL
ZINC OXIDE

CHARLES B. CHRYSTAL
CO., INC.
53 PARK PL., NEW YORK 7, N.Y.
PLANT-WAREHOUSE:
JERSEY CITY

ones, will gradually build up a relatively substantial position and give the physician much in the way of drugs to use and the patient much to look forward to with hope.

As an example, I can cite the work of Dr. Roy Hertz, Chief of the National Cancer Institute's Endocrinology Branch, who reecntly received the AAAS—Frankel Rosenthal Memorial Award. Dr. Hertz demonstrated that the growth of malignant tissue in hormone-dependent organs, such as the uterus, can be inhibited by administering folic acid antagonists. He applied this knowledge in the treatment of choriocarcinoma, a rare but invariably fatal tumor which occurs in the uterus either before or after childbirth. Treating sixteen women with methotrexate, a folic acid antagonist, he found that the disease disappeared in six women and almost completely disappeared in five others. These eleven women are now restored to normal living and have been entirely free of symptoms for periods ranging from three months to two years. Three are still being treated, and two died of their far-advanced disease before treatment could be completed.

Chemotherapy is producing good results in several other types of cancer, including leukemia, cancer of the breast and prostate, and Hodgkin's disease. Of these, leukemia has shown the greatest response to drug treatment. Previously this disease killed in a few months. Today hundreds of its victims owe extra months of life to chemicals; and more than half the number treated have lived longer than a year.

I have tried to sketch a picture of the cancer chemotherapy effort as I see it. What might the future hold for the pharmaceutical industry in this cooperative effort? It appears to me that each organization that chooses to be diligent in the search for these new products will develop a series of cancer drugs of its own. Under the new Health, Education and Welfare patent policy as it relates to cancer research, the patents on the drugs will be the property of the originator. If the government supports efforts in ways other than paying for merely routine testing operations, patents will be subject to certain rights of the Surgeon General which can be exercised under stipulated conditions. Because of my confidence and trust in the pharmaceutical industry, and because there will undoubtedly be so many drugs from so many houses, I consider the chance that the Surgeon General will ever be called upon to exercise these rights to be most remote.

It is entirely up to the industry as to how much of its own money is put into this cancer program, and how much and what type of government support is accepted. I am confident that we can work harmoniously together and that we are only in the beginning of a program which will, before too long, begin to bring relief to at least some of those unfortunates afflicted with cancer.

(Continued on page 673)

Now let us return to corroboration of the conception of invention. Very simply, because the conception is a *mental act*, a written description in a notebook or disclosure is a satisfactory technic for offering evidence of the prior existence of the mental act, providing, of course, that corroboration is also satisfactory.

Regarding the actual mechanism of witnessing laboratory notebooks and written disclosures: two competent and disinterested witnesses are usually asked to read the subject matter and to sign and date their signatures on each page immediately beneath the last entry on the page, after writing or rubber-stamping the phrase "read and understood". The date, of course, must be entered as the actual date of *witnessing*. It is clearly desirable to witness frequently, preferably at least weekly so that corroboration may be nearly simultaneous with the original work.

Corroboration of Reduction to Practice

Let us recall initially that the whole subject of corroboration becomes significant only when an interference occurs and that an interference proceeding is a priority contest in the patent office which seeks to determine which party is the prior inventor as between applicants- or as between applicants and patentees. Such a contest necessarily involves an adjudication of which party *first reduced the invention to practice*. It is this phase of the maintenance of legally acceptable invention records that is most complex and stringent. The problem has its origin in the fact that although properly corroborated written records can help establish the conception of invention (the mental act) they *cannot* satisfactorily serve to establish the existence of the reduction to practice (the physical act). All that a properly corroborated written record proves is that the written record was there—the witness cannot possibly testify that the work was *actually* done. As Jackson has stressed (7): "The important feature on which most corroborating witnesses of experimental data fall down is that the witness must be prepared to establish of his own knowledge that the subject matter which underwent the test corresponded to the invention." For example, in a chemical development it is essential that the witness be able to verify from his actual knowledge that the specified reagents were, in fact, used. In such a situation it would probably *not* be satisfactory to state that the label of a reagent bottle corresponded with the inventor's statement, since any label can be affixed to any container. Cheesman, in the "Journal of the Patent Office Society" (8) emphasizes this point by stating that "unless a witness is able to testify *of his own knowledge* as to facts recorded on the page he has signed, his signature is of practically no corroborating value even though he is able to recall perfectly the occasion of signing. The witness must be acquainted with what he is supposedly wit-

To Your Cosmetic Powders

Add "KIND-TO-THE-SKIN" Properties

with Horse Head U.S.P. Zinc Oxide

Your dollars work two ways when you use Zinc Oxide in your face and body powders . . . because Zinc Oxide imparts *both* cosmetic and pharmaceutical properties:

1. COSMETIC PROPERTIES

High Covering Power
Zinc oxide gives more covering power *per dollar* than any other high covering pigment used in cosmetic powders.

Deodorant
Zinc oxide neutralizes perspiration acids.

Sunburn-ray screen
Zinc oxide is opaque to ultraviolet light.

2. PHARMACEUTICAL PROPERTIES

Zinc oxide is widely used in dermatology in the form of zinc oxide ointment and calamine lotion.

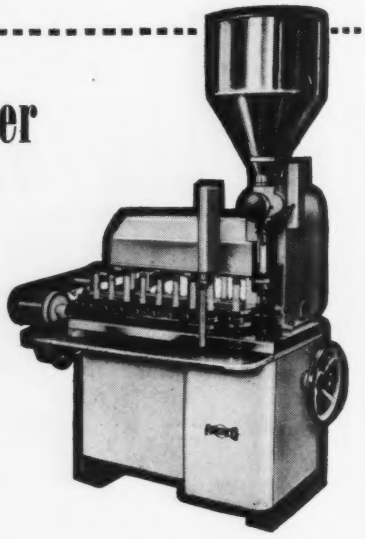
It owes its popularity, according to one recognized authority,* to a combination of at least three qualities: it is non-toxic, protective and mildly astringent.

* *The Dispensatory of the United States of America, 1950 Edition*

THE NEW JERSEY ZINC COMPANY
FOUNDED 1848
160 FRONT STREET, NEW YORK 38, N. Y.
BOSTON · CHICAGO
CLEVELAND · OAKLAND · LOS ANGELES

if your package looks like this...

fill it better with this



Arenco Machines are in service throughout the world, wherever products are packaged. They operate cleanly and efficiently at highest speeds, with little or no maintenance required.

Liquids, solids, paste and powders—bottles, tubes, bags, vials and boxes—every packaging operation can use one or more versatile Arenco units to advantage.

Write today for literature on Arenco units for *your* requirements!

ARENCO MACHINE COMPANY, INC. 25 West 43rd Street New York 36, N. Y.

PRIVATE FORMULA

Tablets and Capsules

BY THE THOUSANDS— OR BY THE MILLIONS

Over 44 years' experience enables us to render you prompt, accurate, and dependable service in the manufacture of your tablets and hard shell capsules. Our central location expedites delivery to any point in the country. Furnished bulk or packaged.

Vitamin Tablets and Capsules—Tablets—Ointments—Powders

We Invite Your Inquiries

Standard Pharmacal Co.

OF CHICAGO

PRIVATE FORMULA MANUFACTURERS

M. F. Charley, President

847-853 W. JACKSON BLVD. CHICAGO 7, ILL.

nessing, not merely acquainted with the written page, and the acquaintance must be a personal one".

This highly significant requirement of patent law will undoubtedly come as a shock to the multiplicity of research laboratories that currently limit their corroborative endeavors to the witnessing of written records.

Practically speaking, what can be done to minimize the grief encountered in interference proceedings? Assuming that the protocol of keeping and witnessing written records is entirely satisfactory (in which case, proof of *conception* would be no great problem), how do we go about providing evidence of successful *reduction to practice?*

Initially, let's be realistic and admit that routine corroboration of every move made in every laboratory isn't possible, or even desirable, from an economic viewpoint. The practical compromise involves discrimination in ferreting out the significant activity, invention-wise, and acting accordingly. Fortunately, research workers are usually sufficiently familiar with the pertinent prior art to make such judgments intelligently and to discern the existence of a possible invention. In such instances, every effort should be made to provide worthwhile corroboration. Legally acceptable corroboration of a reduction to practice can be achieved most effectively, perhaps, by having a competent and disinterested witness (two would be preferable) carry through the reduction to practice independently, satisfying himself as to the identity of reagents used, arranging for essential analytical determinations, and, generally, carrying through every essential step in the proof of the invention to ensure the acceptability of his corroborative evidence. (The witness should have no responsibility for technical advice in connection with the inventor's project which might classify him as a coinventor and, hence destroy his value as a corroborating witness.) Such corroboration of an actual reduction to practice must cover the following points (2):

(1) *Subject matter of invention.*
(2) *Date of reduction to practice.*
(3) *Demonstration that the reduction was complete from the standpoint of providing a physical demonstration of the operability of the mental concept.*

Ideally, the witness should also make an independent record of the reduction to practice with the appropriate date and signature. Alternatively, but not quite as ideally, the witness can be asked to observe a repitition of the inventor's reduction to practice and then to make an independent record of his observations.

Clearly, day-by-day corroboration is not a practical custom. However, by the time the invention disclosure is prepared, the laboratory worker himself believes that he has made a patentable invention, at which time there should be a higher burden on that worker to make sure that the corroborating witness is treated to a complete step-by-step demonstration of

the invention in the laboratory, plus whatever else may be required to demonstrate the actual reduction to practice.

Minimizing Interferences

The Strategy of Early Filing

The discussion to this point has concerned itself primarily with technics for establishing proof of invention to strengthen one's position in the event of a future priority contest. However, because of the aggravation, expense, and loss of earnings frequently caused by interferences, let us briefly consider a practical technic for minimizing interferences, namely, prompt patent application filing. To attain the earliest possible filing date, patent attorneys generally prefer filing prior to the conclusion of the extensive and comprehensive investigations usually planned by inventors. Such prompt action improves one's chances of avoiding interferences or, if an interference should result, maximizes the possibility of being the first to achieve "constructive" reduction to practice by having been the first to file. The first person to file becomes the senior party and the burden of proof falls upon the "Johnny-come-lately" junior party, i.e., the second to *file* the patent application. Then, if subsequent experimentation by the inventor following application filing so dictates, a "continuation in part" can be filed which will enjoy the benefit of the original filing date as to subject matter common to the originally filed application. No pat general formula can be offered, of course, for determining the most propitious moment for filing—this must be decided in each instance by the patent attorney and inventor. Nonetheless, all things being equal—early filing is good patent strategy.

The maintenance of adequate research records serves many purposes, not the least of which is the successful protection of company inventions. Basically, a laboratory record should be a complete history of all experimental manipulations and observations, maintained in such a way as to provide maximum assurance that the record has not been modified in any way. If an inventor becomes involved in an interference proceeding his testimony and records are considered to be "self-serving" declarations and he is called upon to provide substantiation of his statements by others. Corroboration of the "conception of of invention"—which is a *mental* act—can be achieved simply by having a written description of the invention witnessed. Corroboration of the "reduction to practice", on the other hand, which is the *physical* act completing the invention, requires that the witness be able to testify that he observed the physical embodiment of the invention. In both instances, a witness should be personally "disinterested" in whether the patent issues, and, additionally, must be competent in the field so that his testimony is credible. Because of the complexity and cost of interferences, prompt patent application filing is usu-

SPECIAL
private label
SERVICE
• Lipsticks, mascara creme and dry rouge.
• Eyeshadows, powders and lotions.
• Shampoos, lotions, and creams.
• Stick deodorants, colognes, and perfumes.
WRITE... and send us a description of your requirements. Complete information and estimates will be sent by return mail!
Central Midwest Location Slashes Costs!
Helfrich Laboratories outstanding quality, dependability, and understanding service have made it the industry's first choice for private label cosmetics of all types since 1921! . . . and Helfrich's central midwest Chicago location makes available to eastern and western manufacturers and distributors alike, a convenient, low-cost service for all needs without high transportation costs! These extra savings mean added profit to every Helfrich customer! Complete facilities enable us to create, and package any product you desire in any quantity.
Take advantage of Helfrich Laboratories unique service facilities.
HELFRICH
LABORATORIES
4707 WEST GRAND AVENUE
CHICAGO 39, ILLINOIS

Huisking

ATROPINE *Sulfate & Alkaloids*
BRUCINE *Salts*
CAMPHOR USP *Powder du Pont*
CAMPHOR USP *Tablets Tower Brand*
CHLOROPHYLL *Allen's*
HAARLEM OIL
HYOSCINE *Hydrobromide*
HYOSCYAMINE *Hydrabr. & Sulfate*
ICHTHAMMOL
MAGNESIUM CARBONATE USP *Blocks*
MENTHOL USP
NAPHTHALENE
SANTONIN
SUGAR OF MILK USP
SULFUR USP PRECIP. *English*

CHAS. L. HUISKING & CO., Inc.
215 FOURTH AVENUE, NEW YORK 3, N. Y.
Telephone: GRamercy 5-3900 Cables: HUISKING, NEW YORK

Since 1810

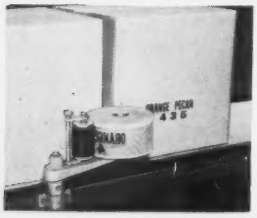
Always the best...now even better

NEW forward-design ROLACODER

AUTOMATIC CASE MARKING AND CODE-DATING ATTACHMENT

Holds enough ink for a week!

See it at the PACKAGING SHOW Booth 1205 New York Coliseum May 26-30



- Extra compact—adaptable to any conveyor, case-sealer, etc.
- Simplified construction—trouble-free performance
- Precision-built—assures sharp uniform imprints up to 3" deep, *accurately* located on case after case
- Swing-out mounting for easier maintenance
- Patented "Metalok®" type base holds type more securely, makes copy changing easier

Write today for full details about the new "Series 300 Rolacoder" case-marking attachment

First and foremost in automatic production-line CODING, MARKING and IMPRINTING machines

Gottscho

GOTTSCHO
Dept. C
HILLSIDE 5, N. J.

In Canada: Richardson Agencies, Ltd. • Toronto & Montreal

ally desirable as a possible means of avoiding such entanglements, or, if they should occur, of improving one's position by having been the first to file, thus being awarded a constructive reduction to practice by the patent law. However, it is essential to realize that prompt patent application filing is in no sense a *substitute* for the maintenance of good research records; instead, prompt filing is to be considered as an adjunct to an adequate record system.

The court said in Senkus vs. Johnston (9): "We think it is a matter of common knowledge that . . . research scientists are 'patent-wise'; if they are not they should be." And if they should be, it is clearly the company's responsibility to see that they *are*. Procedures for the maintenance of invention records should be legally acceptable. Management would do well to sit down with its patent counsel and the appended references, and evolve or modernize pertinent policies.

ACKNOWLEDGMENT

Grateful thanks are due Dean Laurence of Laurence and Laurence, and Dr. Edward R. Neary, Medical Director of White Laboratories, Inc., for critical review of the manuscript and suggestions for its improvement. I am especially indebted to Winston E. Miller of Miller and Morriss for repeated review and revision of the manuscript at its various stages of development—truly 'above and beyond the call of duty".

Thanks, also, to John C. Vaaler, Editor of "Chemical Processing", for permission to use the cartoon at the beginning of the article.

REFERENCES

1. "Distribution of Patents Issued to Corporations (1939-1955)", U. S. Government printing office, Washington, D. C. 1957.
2. C. D. Tuska "Patent Notes for Engineers", 4th ed., Radio Corp. of America, Princeton, N. J., 1954.
3. Bambridge vs. Walton, U. S. Pat. Quart. 42:138, 1939 (quoted in reference 6).
4. J. K. Wise "Patent Law in the Research Laboratory," Reinhold Publishing Corp., New York, 1955.
5. R. S. Calvert "Essentials of Patent Law and Invention Management", in "Encyclopedia of Chemical Technology," Vol. 9, pages 868-890, 1952, The Interscience Encyclopedia, Inc., New York.
6. R. T. McLean "How to Establish Reduction to Practice of a Chemical Invention," Chemical Industries, pages 882-884, December 1949.
7. J. G. Jackson "Records of of Research," J. Franklin Institute 254:355-368, 1952.
8. W. L. Cheesman "The Role of Laboratory Notebooks in Patent Matters," J. Patent Office Society, June 1948.
9. Senkus vs. Johnston, U. S. Pat. Quart. 77:113, 1948. (quoted in reference 10).
10. F. Trimble "You May Need a Witness," J. Chemical Education 29:252-254, 1952.
11. "Evolution of a Patent," Industrial and Engineering Chemistry, 43:2487-2496, 1951 (A symposium).
12. C. H. Biesterfeld and P. J. Culhane "Patents and Patent Law" in "Chemical Business Handbook," 1st ed., section 16, McGraw-Hill Book Co., Inc., New York, 1954.
13. I. J. Fellner "Inventorship Test in Chemical Priority Conflicts," Chemical and Engineering News 25:3354-3356, 1947.
14. "Patent Manual for Employees of the U. S. Department of Agriculture," U. S. Government Printing Office, Washington, D. C., 1957 (40c).
15. J. H. Wills "Are Your Research Records Sufficient?" J. Chemical Education 30:408-410, 1953.

CREATING FRAGRANCE APPEAL

(*Continued from page 599*)

Without exception, every famous and successful fragrance shows clearly that careful thought was given to the construction of sex appeal during its design. Conversely, improper handling of this sex factor is one of the common reasons for lack of appeal

in, or outright failure of, a fragrance.

THE "ESTHETIC" AND "PRACTICAL" FACTORS OF A FRAGRANCE

The "esthetic" factors are:	The "practical" factors are:
(1) Pleasantness	(1) Persistence
(2) Elegance	(2) Intensity
(3) Originality	(3) Balance
(4) "Recall"	(4) Chemical stability

Pleasantness

A good fragrance should be pleasant. This statement may seem so obvious as hardly to warrant discussion. Actually, it is not. A surprising number of perfumers in their constant search for original ideas, tend too frequently create fragrances so exotic that they can be appreciated only by a very limited number of individuals. This may appear to be a fine artistic achievement to the individual perfumer, but it seriously reduces the general appeal of a fragrance by restricting the range of its appreciation. The establishment of a "common denominator" of pleasantness is necessary to create a high level of fragrance appeal.

Elegance

The word "elegant" means graceful, well-rounded, polished in workmanship, and in fashion. All these words are instantly descriptive of a good fragrance. But from the success viewpoint, the most important is fashion.

A good fragrance should be in harmony with the trend of fashion when it is being presented to the public. It should be *appropriate* but *not too topical.* As simple as these two factors of elegance may seem it is surprising to see how many times they are ignored, with unhappy results.

An illustration of inappropriateness would be the presentation of a "Lavender-and-Old-Lace" type of fragrance at a time, when the general trend of fashion was in a futuristic mood. Such a presentation would be as out of place as hoopskirts at a modern ball game.

An illustration of the risk of a too topical tie-in would be the King Tut fad of a number of years ago, when there was a craze for Egyptian items. It had immense popularity, but many people who had made heavy investments in Egyptian styles were caught when the fad collapsed almost as quickly as it rose.

If the reader will examine a number of the noted fragrances he will see how carefully they have been designed to produce a style of fashion compatible with a wide range of situations, times, and persons. Consider the superb "Arpege" (Lanvin) for example. It can be used in the daytime as a sports of informal fragrance. Yet in the evening it will reflect the consummate elegance of formal wear. It can be worn by debutante or dowager alike, with equal effectiveness. It is as completely in harmony with contemporary fashion as it was twenty years ago. And, there is excellent prospect that this can be said twenty hence.

Originality

In the designing of a new fragrance it is impera-

CHOLINE SALTS

•

Choline Bitartrate

•

Choline Dihydrogen Citrate

•

Tri Choline Citrate Solution

Samples and literature on request.

VITAMERICAN CORPORATION
1 John Street, Haledon
Paterson 2, N. J.

A Dependable Source for Hormones and Fine Chemicals

when
Price and Quality
are factors...
Call Us
BArclay 7-4465
you may be pleasantly surprised!

New!
Wilson-Martin ESTERS
Butyl Oleate
Butyl Stearate
Other types to follow.

SINCE DOMESTIC & EXPORT 1838
Welch, Holme & Clark
COMPANY, INC.
No. 1 Hudson Street, New York 13, N. Y.

tive to incorporate some original idea or new product to create a special or striking nuance that will capture and hold the public's fancy.

Illustrating the "new product" approach is the bold and dramatic use of the aliphatic aldehydes in "Chanel No. 5." and the host of subsequent imitators and patterns.

For the "original" approach we have the adaptation of the bizarre leather effect to high class fragrances, which gave rise to the "Cuir de Russie" (Russian Leather) sequence of fragrances.

It should be observed, that without exception, all of the famous fragrances which have achieved a high degree of *spontaneous* sales success, have been those with notable originality of ingredient or thought.

Recall

By "recall' is meant that the fragrance will evoke pleasant associations from past experiences. Of the four "esthetic" factors it is the least discernible, but nevertheless as important as any of them, perhaps the most important. To a limited degree it is dependent on the choice of theme, but mostly it is a matter of creative imagination.

One of the oldest "recall" factors is incense. The fragrance of incense, and its association with the emotional feelings and beauty of worship is one of the earliest odor memories of great numbers of people. Consequently fragrances incorporating incense characteristics in their make-up, have a good chance of popularity because of the significant, and beautiful recollections they can evoke.

The Oriental religions use heavy, sweet odors in their incense. This use is reflected in the Oriental preference for this class of perfume effects. So great is this preference, that it has given rise to a subdivision of perfumery known as "Oriental."

In the Western world, the classic Biblical incense based on Frankincense (modern word: "Olinbanum"), Myrrh and Sandalwood is better known. Many famous French fragrances employ this incense type (or variations) in their background, and their success in countries where the Church ritual uses incense, is well recognized by perfumers.

"Old Spice" (Shulton) is one of the spectacular American illustrations of this "recall" factor. It was originally created in simulation of the fragrance of the old-fashioned procelain jar of dried rose petals and spices, that was a traditional mantelpiece in every home, from Colonial times to the early part of this century. The fragrance of this mixture is one of the very few odors that can be described as characteristically "home-like." The enormous recall power (and success) of "Old Spice" apparently is due to its evocation of the sentimental memories and associations of early home life.

The knack of building "recall" into a new fragrance, is to weave a familiar theme (incense, forest, garden etc.) into the background so that it cannot be identified, yet will contribute a nuance to the total perfume bouquet. Their "recall" will then be more dependent on the subconcious memory than direct recognition, but none the less effective.

Persistence

A good perfume must be persistent. By this is meant that the odor bouquet should continue to diffuse from the skin or clothing of the wearer for at least a few hours. It is desirable, but not absolutely necessary, for the odor to remain unchanged during this period. However, it is imperative that the odor remain pleasant until completely evaporated.

Intensity

A good fragrance must be intense, that is, have impact. A woman selects a fragrance primarily to call attention to herself. The beauty and delicacy of its odor are very close, but none-the-less secondary considerations. The prime function of a fragrance is to attract. A fragrance without impact is lifeless, and obviously cannot satisfy this cardinal requirement, no matter how much subtlety and ingenuity are worked into it.

From the practical sales viewpoint, a fragrance must have sufficient intensity to be instantly and completely recognizable without physical effort, even under such adverse conditions as smelling directly from a bottle. If the potential buyer must make a definite effort to smell a fragrance when appraising it, it is not powerful enough, and therefore low in "first impression" sales appeal.

Balance

A good fragrance should be balanced. A properly balanced fragrance is clear and clean-cut in its effect. Balancing does not mean the blending together of a complicated mixture of pleasant odors. The balance fragrance is organized after the pattern of the musical choir. It consists of an assortment of voices covering all the tonal range. Some voices are brilliant soloists. Others comprise the soft choral background of accompaniment. All the voices sing in harmony to produce an overall effect of beauty and depth.

One of the peculiar problems encountered in balancing a fragrance, is a tendency to over-polish the work. Europeans tend to do this more than Americans, largely because their clientele is more appreciative of finer shadings than Americans.

The American fragrance taste in regard to balance, is comparable to their preference in liquor. They want "punch" even to the extent of it being on the "raw" side. The subtleties are not especially appreciated. In fact it is often desirable to slightly "edge" a fragrance for the American consumption.

Stability

A good fragrance should be chemically stable within itself. Chemical instability shows itself in two principal ways:

(1) Change of the fragrance odor on standing.

(2) Discoloration of the fragrance on standing. Either of these occurrences can cause serious customer criticism and heavy returns of merchandise with charges of being defective.

Item #1 is illustrated by the chemical reaction between Indole (or Skatole) and the Anthranilic esters. The use of these chemicals in a fragrance formulation often results in the slow formation of a complex Schiff's base that affects the fragrance by withdrawing these materials from the formulation as a condensation product (Schiff's Base) with a lower and somewhat different odor level.

#2 is illustrated by the intense color conbinations possible by condensation reactions between a material like Tetra Hydro Quinoleine and various aldehydes on long standing. Tetra Hydro Quinoleine is a civet-like material with considerable structural resemblance to Indole.

In general, successful fragrances are designed with regard to their stability, so that they may be repeated through the "line" as colognes, sachets, powders, soaps etc. without requiring substantial alteration of the odor bouquet, and without encountering difficult technical applications.

It is quite true that there are some exceptions to this statement, and notable ones at that. But, if these exceptions are closely examined, it will be observed that one or two items of the "line" are outstandingly successful, and that the remaining items "ride" along on the prestige of the successful ones without any special regard for the accuracy of their odor relationship.

FINAL APMA MEETING

(*Continued from page 601*)

Mr. Sedgewick said that from a knowledge of the pharmaceutical industry he felt that its attitude was this: "It (the industry) wants the laws to be interpreted fairly for both consumer and manufacturer. If the manufacturer is careless in manufacturing a product, the industry agrees there should be liability. If for any reason a product is not properly manufactured or tested there should be a liability for the harm that results. But where a product is manufactured without negligence and is properly developed and tested in accordance with the best scientific knowledge then available and all applicable government regulations are fulfilled, the manufacturer should not be held to blame solely by the application of implied warranties."

Some industry leaders expressed the thought that if the Cutter verdict is not reversed on appeal, progress in pharmaceutical and medical research will be slowed to a walk. "Who will dare to introduce new products with the threat of implied warranties—and damage suits—constantly a jeopardy to such advances?" one leader asked.

Mr. Sedgewick quoted Austin Smith, editor of the

Protect Product Purity

with fully

corrosion-resistant

"Metalsmiths" Stainless Steel and Monel Utensils

Designed and constructed to meet the strictest requirements of drug and cosmetic usage. Many sizes in items shown, plus stock pots, batch cans, beakers, shovels. Try "Metalsmiths" utensils and compare the value. We ship promptly — anywhere.

WRITE FOR LATEST CATALOG — PRICE LIST

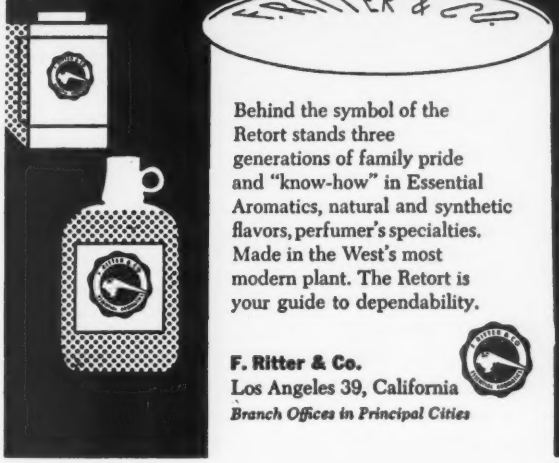
METALSMITHS

568 White St., Orange, N. J.

Specialists in Corrosion-Resisting Equipment

look for the symbol of the **RETORT**

YOUR GUARANTEE
OF MATCHLESS QUALITY,
PURITY, UNIFORMITY



Behind the symbol of the Retort stands three generations of family pride and "know-how" in Essential Aromatics, natural and synthetic flavors, perfumer's specialties. Made in the West's most modern plant. The Retort is your guide to dependability.

F. Ritter & Co.
Los Angeles 39, California
Branch Offices in Principal Cities

Journal of the American Medical Association, as expressing the view that "researchers may be unwilling to try them (new drugs) on patients because of liability and practicing doctors may become afraid to give newer drugs for fear of the slight risk that may develop unexpectedly."

The floodtide of new pharmaceuticals has reached such proportions that the matter of identification has become confusing to the industry and to retailers, said Raymond B. McMurray, chairman of the Patent and trademark Committee of the association. He said that 4,829 new products—3,686 new compounds and 1,143 new dosage forms—have appeared in the last decade, creating in each case the need for finding a medical sounding and realistic trademark. He said that the selection of practical trademarks is further confused because out of 10,000 registered trademarks, "roughly 5,000 are dormant."

"Often when a manufacturer introduces a new product he registers four or five trademarks, finally selecting one but leaving the others registered. The excess trademarks remain registered and are often renewed even after 20 years although there is no real need for their continuance," he said. As a remedy he suggested that the industry voluntarily eliminate "deadwood" trademarks and refuse to reregister any trademarks where there are no products represented by them.

The stepped-up tempo of the war on disease has reached a point where new pharmaceuticals and changes in the medical profession are considered commonplace rather than "miracles," said Dr. F. J. L. Blasingame, general manager of the American Medical Association. He noted that in the past decade the pharmaceutical introduced 3,600 products, or one new pharmaceutical per day for ten years. As a result of this and other "fortuitous circumstances" Dr. Blasingame said that "the center of medical culture the world around is now the United States of America. In this leadership your industry and my profession can take pride. Perhaps the most important factor that has brought about such spectacular developments is the economic climate of freedom and competition."

Dr. Blasingame called for closer liaison between the medical profession and the pharmaceutical industry "to work intelligently for solutions of problems and to promote active recognition of mutual interests." In this connection he said that the AMA will examine every means of making its publications a useful, efficient and economical channel of communication between the manufacturers and the medical profession.

James W. Knowles, staff economist of the Joint Economic Committee of Congress, said that "the government cannot guarantee constant, perpetual prosperity" in our free economy. "Such devices," he said, "we leave to totalitarian governments which promise everyone a job but in return the sacrifice of individual liberty, assigning each to work by coercion."

Thomas P. Whitney, an authority in Russia, said that the probabilities of any Russian pharmaceutical "miracles" is being balked by over-emphasis on rocketry and nuclear weapon research. As a result, he said, pharmaceutical research has a low priority. "Because of the de-emphasis," he said," Soviet pharmaceutical research consists largely of selecting products already discovered by the West which they can manufacture themselves."

THE CLOVE OILS

(*Continued from page 603*)

oil, occasionally beyond 20 per cent, which made the buds an excellent starting material for early scientists in the field of essential oils. Those were the big days discoveries and development in organic chemistry, and the availability of such rare intermediates as eugenol, safrol etc., opened up a wealth of possibilities or the synthesis of perfume raw materials. Since then, the interest in clove oils increased to such a degree that a production was soon established on the very places of cultivation: Zanzibar and Madagascar. Reunion had died out as a clove producer after the colonization of Madagascar in 1896. The Comoros may one day become serious competitors. Large plantations have recently been started with seeds and baby plants from Madagascar, and the first million trees will be harvested shortly after 1960.

As the demand for clove buds increased, the stems came into the limelight. For decades the stems had been discarded or sold unlawfully admixed to low-grade cloves, "mother-of-cloves" and headless buds. But since the establishment of the Clove Growers' Association (CGA) in the 1920's in Zanzibar, the production of clove oil was greatly improved and rationalized. An increasing amount of stem oil was produced, and today, no bud-oil at all is produced in any clove-growing area.

The stems yield from 5 to 7 per cent of oil, somewhat different from the bud oil. "Somewhat" means that the chemical composition of the two oils are very similar, but that the odor characteristics are quite different. A genuine clove bud oil, or an absolute from concrete of clove buds, duplicates better than any other product the sour-fresh, sweet-spicy, yet extremely flowery fragrance, that embalms the clove groves during the harvesting seasons, i.e. immediately before the buds open. By the way, the flowers in full bloom exhale a most delicious fragrance, but only few flowers are allowed to grow into full maturity. Fecondated, the flowers produce fruits, and a certain amount of seeds are wanted for annual replantings. Clove flowers are not exploited for perfumery, nor are any extraction plants at hand in the producing

regions (except Comoros). Absolutes, produced in Europe or USA from concretes, extracted with various solvents from clove buds, present most beautiful perfumery raw materials. Certain solvents yield superior absolutes (concretes).

The production of clove stem oil in Zanzibar has now been rationalized to such a degree that it presents a year-round continuous production at its maximum. A perfect subject to study, and it was my first target in Zanzibar. As a matter of fact, I could hardly wait for a decent week-day, and I had just placed my movie camera in position on the Sunday morning after my arrival on Saturday afternoon, in front of the name-plate on the clove stem distillery, when Mr. Thompson, the plant engineer, invited me inside. My advanced introduction to the general manager of the CGA, Mr. Williams, O.B.E. had not even reached Mr. Thompson yet. During the following days, I had full opportunity of seeing the various stages of the distillation of clove stems.

The distillation plant is situated at the port Malindi at the northern outskirts of Zanzibar city, conveniently for reception of cloves and stems from Pemba, shipped by the picturesque Dhows, unchanged antique Arabian ships. There are two harvests of cloves per year in Zanzibar and Pemba, and the first step after picking is that of separating the buds from the stems. The clusters are simply rubbed against the palm of the hand, and the buds, when at the proper "pink" stage of maturity, will easily fall off the stems. Stems and buds are dried in the sun either on grass mats (imported from Lamu, Sultanate possession on the mainland), or on large concrete platforms. On drying, buds and stems turn chocolate brown in a few days.

The CGA distillery houses 12 large stills of stainless steel ranged in 2 rows in a very capacious still room. The stills can be discharged from below, outside the building. Each still is charged from the top inside the hall, with 30 bags or approximately 1,500 lbs. of clove stems, totalling two shifts of 9000 lbs. each in 6 stills. At the time of my visit, however, all 12 stills were charged at the same time, and discharged after 16 hours of continuous distillation. The large boiler was being repaired, and 2 smaller ones operated in replacement. The large boiler was the largest I ever saw in Africa. At the end of distillation follows the most lively scene: discharging the stills. I certainly did not envy the sweating Africans their hard job of carrying the steaming-hot baskets of exhausted stems to the other end of the distillery where they are spread out for drying.

The law demands, that the clove stems shall be destroyed after distillation. Years ago, the stems were simply dumped into the sea, and subsequently picked up by eager native children and women, who sold them on the native market as a cutting material for lower grades of clove buds. Now, the stems, mixed with coconut shells serve as an original and abund-

Italian

TALC

•

CHARLES MATHIEU, Inc.
77 RIVER STREET • HOBOKEN, N. J
Telephone: OLdfield 9-4412
New York: BArclay 7-3618

3618 Oceanside Rd., Oceanside, N. Y.
Showrooms: 350 Fifth Ave., N. Y.

ant fuel in the huge CGA boilers.

Thanks to the stainless steel stills, condensers (tube condensers) and separator tanks, the clove stem oil is almost water white, when it is separated from the distillation water. Thanks to very careful handling of the oil, shipment in clean galvanized drums, the oil often arrives at the consumer as a yellow or slightly violet-tinted, bright clear liquid. The eugenol content is usually from 90 to 95 per cent, but there is little or no acetate present. The eugenol content of oils steam-distilled in Europe from clove buds, amounts to 91 to 95 per cent, while water-distilled buds yield oils with 85 to 89 per cent eugenol. Steam distillation apparently yields oils with higher phenol content, but less "bouquet". Consequently, we should conclude that the buds contain considerable amounts of eugenol acetate, and that this and similar derivatives are broken down by the steam distillation—to a higher degree than by water distillation. Which fact has probably enhanced the want for experimental production of low-temperature extraction products of clove buds. Gasoline or benzene yield concretes which, in turn, are processed into corresponding absolutes. These experiments at least gave some concise information on the clove bud oil in nature, "in vivo"; The oil in the living bud does not contain caryophyllene. This sesquiterpene is formed during the (hot) steam treatment of the buds, which contain the so-called "epoxycaryophyllene" (according to informations from Dr. Treibs, Editor-in-Chief of the new, not fully published edition of Gildemeister & Hoffmann's "Die aetherischen Oele"). The readers will certainly recall, that ylang-ylang oil contains a very large amount of sesquiterpenes, which are, *per se*, more or less odorless. The absolute from concrete of ylang-ylang contains little or no sesquiterpenes at all. Accordingly, we should only be pleasantly surprised that the price of ylang-ylang absolute is as low as twice the price of the "extra" oil. Just a few examples showing that what we are distilling from the natural material may be quite different from what is actually present in the raw material. Also, that the method of distillation has a large influence upon the resulting oil.

That was a slight digression from our clove oil, and to finish the more cold facts about Zanzibar clove stem oil, it is worth while noticing that the production is extremely stable, and runs into an annual average of nearly ½ million lbs. The oil is controlled by official (British) analysts in Zanzibar, who seem to make a personal effort and honor in maintaining the high standard of this oil, although they are sole manufacturers of clove stem oil.

A week later, I arrived in Madagascar, and had planned my itinerary, so that I could visit the clove coast several times with a few weeks interval. But even with the very restricted area of clove production in question, the number of clove trees impressed me beyond measure. It is estimated that nearly 10 million clove trees grow along the Northeastern coast of Madagascar, and you will not even get an impression of any plantation as such. Gardens or apparently scattered-growing trees grow from the dense underbush. Harvesting of buds takes place in October-December, once a year only, in Madagascar. The small island strip of Sainte-Marie can harvest almost a month earlier, thanks to its extremely suitable climate for clove-growing.

The centre for production of cloves is the region called Soanierana-Ivongo, about 130 miles north of Tamatave, Madagascar's No. 1 seaport. When including Sainte-Marie, this district produces about 75 per cent of Madagascar's cloves. A large number of very primitive distilleries are constructed at the rivers, which are plentiful, and in the very heart of the groves. Leaves, stems and even smaller twigs are collected throughout the year, mostly off the bud-harvest, where labor is scarce. The clove district in Madagascar has more clove trees than Zanzibar and Pemba, but only one fifth of the Zanzibar manpower. Hence the poor yield of cloves from a large number of trees. Subsequently, harvesting in Madagascar is often carried out in a rather brutal way: entire tops or branches are torn off the trees. Leaves and twigs are bundled in 50-lb. bundles. One tree gives from one to four such bundles. One charge in the still is about 10 to 15 bundles, and the yield after a 24-hour operation, including the heating up (5-7 hours) is about 1.5 to 1.8 per cent of a dark oil.

The oil is collected in old kerosene cans etc., and the Chinese or Madagascan operators (not one distillery is run by the French or other Europeans) sell their lots to Chinese or Indian middlemen, in cases to a local French agency of a clove oil company. Occasionally, there may be a larger amount of stems in the material distilled, and the yield increases accordingly. The eugenol content may in such cases be 88 per cent or even higher, which can be controlled on the place by the French experts in the trade. I enjoyed being a guest at the SIP stations at Soenierana-Ivongo and Fenerive, particularly at the former place, where I could follow the daily work at closest range, often after river-rides in iron canoes with outboard motor (good-bye, romance!). Compound lots of whole drums or more of clove oil were set aside in large tanks in order to let clay, water and other impurities settle (or rise). This practice is not carried out by all exporters and it is up to the buyer to appreciate such initiative, which is rarely paid through a premium of any kind. The drums available are not the best, but here again, some French export houses make an effort in selecting decent drums for shipment. The oil does, however, arrived at destination, a dark-violet-brown oil, and its odor is quite different from that of the stem (or bud) oil. The main constituents are the same in all oils, but leaf oil contains small amounts of furfural and homologues (intermediates in the natural synthesis of glycosides etc.

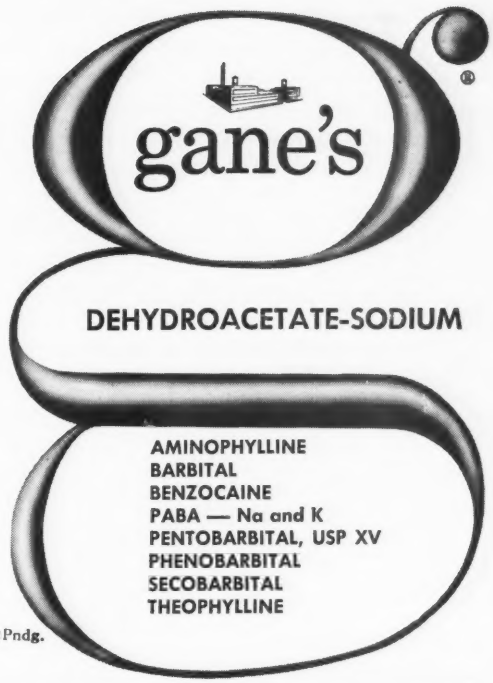
from CO_2 and moisture), a fact you will be able to confirm from a vacuum distillation of clove leaf oil, when using a 1 mm Hg.-pressure (or better) and a-90° freezing trap. In the freezing trap, the furfurals reveal themselves readily. This aldehyde is quite annoying in the isolation of eugenol from clove leaf oil, because it is soluble in water and thus enters the water-phase during the process. Only specified washings and careful rectification can remove the traces of furfural, otherwise imparting unpleasant off-notes. Apart from eugenol itself, the furfurals also are sensitive to oxidation, to water and iron, and tend to discolor the oil. In spite of its poor aspect, Madagascar clove leaf/stem remains our most inexpensive source of eugenol and derivatives.

Eugenol was prepared synthetically many decades ago, but the process cannot compete with the natural isolate in cost. The producers are quite discouraged at the present low price level of Madagascan clove leaf oil, but as long as eugenol and its derivatives are important perfumery and pharmaceutical raw materials, the Madagascan production should not suffer, however large it may seem. The annual production of clove leaf oil in Madagascar is now close to 1,000 tons, or 4 times the amount of stem oil from Zanzibar. In other words, Madagascar produces almost the same amount of *stem* oil as Zanzibar (20 per cent of the Madagascan oil derived from stems, it is estimated). Even after the decreasing demand for eugenol-vanillin, the production of clove oil has increased. But so far, we can only enjoy the net result from a near-to overproduction in Madagascar: a price, which is lower than ever before.

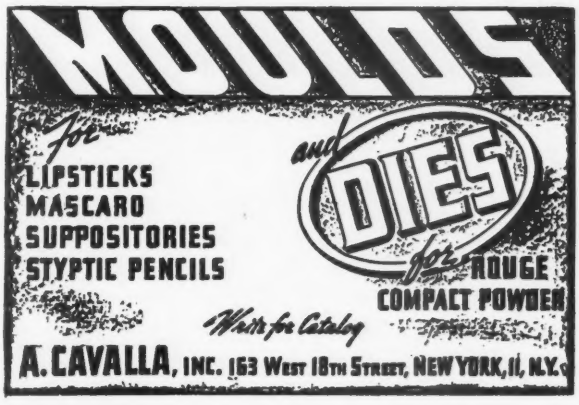
Clove leaf oil is exported almost exclusively from Tamatave. For rush analysis, the hospital-pharmacist, since long a specialist in this field, carries out essays on eugenol-content, specific gravity, water content, solubility, etc. Generally, the French experimental station at Ivoloina, and the Research Institute at Tananarive, the capital, carries out the official analyses. A "service de conditionnement" act as consultants and advisers for the exporters in Tamatave.

So, within November and December, I had the opportunity of visiting almost the entire world clove industry. A few hundred tons of clove buds—the highest quality in the world—are exported annually from the original habitat of cloves, Amboina, Penang and Malaya. These cloves are sold as spice, and not distilled. Indonesia is the world's largest consumer of cloves, mainly as a result of their habit of adding up to 8 per cent of this spice into cigarette tobacco. U. S. ranges No. 3 consumer after India. So, as by irony of fate, the country of origin has become the largest importer of cloves.

The motor rides along the Madagascan east coast were among my most pleasant souvenirs. A peaceful atmosphere, saturated with the scent from clove buds and flowers, the most deliciously fragrant ride of my trip.



WITH EVERY POUND . . . MORE GANE'S in QUALITY
Manufacturer of Fine Medicinal Chemicals
GANE'S CHEMICAL WORKS, INC.
677 Fifth Avenue, New York 22, N. Y. • MUrray Hill 8-2410



Professional Service

***ARLINCO RESEARCH LABORATORY, INC.**
Research, Formulation and Application to the Industry.
Ethical Pharmaceuticals, Drugs, Cosmetics and Perfumery.
333 W. 52nd St., New York 19, N. Y.
PLaza 7-3861
*A-R-L Inco means: Applied Research Laboratory, Incorp.

LEBERCO LABORATORIES
Hormone Assays • Drug Assay
Pharmaceutical and Cosmetic Research
Sterility Tests • Toxicity Studies
Send for information concerning our services
125 HAWTHORNE ST., ROSELLE PARK, N. J.

RESEARCH LABORATORIES
EVERY FORM OF CHEMICAL SERVICE
Cosmetic Formulations—Toxicology—Engineering Analyses—Market Research
SNELL
For information or consultation, call WAtkins 4-8800 or write to:
FOSTER D. SNELL, INC.
29 West 15th St., New York 11, N. Y.

Food and Drug Research Laboratories
INCORPORATED
Our 36th Year
ANALYSES
EVALUATIONS, CONSULTATION
MAURICE AVE. at 58th ST., MASPETH 78, N.Y.C.
* Formerly FOOD RESEARCH LABORATORIES, INC.

TRUESDAIL LABORATORIES, INC.
Chemists • Bacteriologists • Engineers
Request Brochure and Publication
CHEMISTRY IN ACTION, on letterhead
4101 No. Figueroa Street, Los Angeles 65, California CA 5-4148
HAWAIIAN DIVISION Honolulu, Hawaii
PRODUCT & PROCESS DEVELOPMENT
TOXICOLOGY — STERILITY TESTS

CREATIVE RESEARCH and ANALYSIS
ANNOUNCING
TESTS of SHAMPOOS
AGAINST
PITYROSPORUM OVALE
TOXICOLOGICAL ASSAYS

Write Today for Brochure

Describes laboratory services for food, beverage, pharmaceutical, chemical, cosmetic and feed industries, as well as services to general industry

R-H
ROSNER-HIXSON LABORATORIES
and
Laboratory of Vitamin Technology div.
7737 South Chicago Ave., Chicago 19, Ill.
RE 4-0142

WISCONSIN ALUMNI RESEARCH FOUNDATION
Projects, Consultation, and Production Control Services in Biochemistry, Chemistry, Bacteriology, Toxicology—Insecticide Testing and Screening.
WRITE FOR PRICE SCHEDULE
WISCONSIN ALUMNI RESEARCH FOUNDATION
P. O. Box 2217-J • MADISON 1, WISCONSIN

Classified Advertising

Help Wanted

OPPORTUNITY FOR A MAN experienced in all phases of tablet coating to head our tablet coating department. We are a fast growing ethical pharmaceutical firm located on the Canadian border in an ideal area away from city hustle and bustle. For the sportsman, there is nation's best hunting and fishing at your doorstep. When applying, state qualifications and required salary. ROWELL LABORATORIES, INC., Baudette, Minnesota.

NEW PRODUCT DEVELOPMENT DIRECTOR. Full charge new product development for smaller North Jersey pharmaceutical company now entering expansion program. Ability to expedite program and coordinate technical and clinical activities. Organic chemistry Ph. D. Excellent opportunity in top echelon of company. Our employees know of this ad. Send resume Box MA-3, Drug & Cosmetic Industry.

Situations Wanted

ORGANIC CHEMIST: Ph.D., 25 years of versatile experience in research and development, presently active in surfactant field, desires responsible position in which he can exercise his own initiative. Also willing to enter into an engagement as a consultant. Box MA-5, Drug & Cosmetic Industry.

CHEMIST 20 years cosmetic experience, desires position. Experienced all kinds of cosmetics, toiletries and chemical formulation. Box MA-4, Drug & Cosmetic Industry.

TABLET COATER
Old established pharmaceutical manufacturer needs immediately an experienced tablet coater familiar with all phases of coating. Top wages and excellent working conditions.
Write Mr. Stewart Johnson, **CHICAGO PHARMACAL COMPANY**, 5547 N. Ravenswood Ave., Chicago 40, Ill.

Business Opportunities

ROYAL JELLY—Biologically tested, 100% pure Royal Jelly, Royal Jelly Enterprises, 1017 Los Carneros Ave., Napa, Calif. Producers and distributors of "Queen Tested" Royal Jelly. Box MA-6, Drug & Cosmetic Industry.

MEDICINAL; FOOD SUPPLEMENTS; COSMETICS; warehouse, fill, ship large and small orders all Western States. Licensed pharmacist in charge. Thirty years service in Los Angeles. Finest references financial otherwise. Write Box MA-7, Drug & Cosmetic Industry.

BEAUTIFUL NEW HAIR WAVING CREAM. Waves or straightens hair fast. Won't smart, a wavy strate, not a stringy strate. Beautiful burn, or pucker the skin. No ammonia smell, no harsh chemicals. Low cost, you can retail it for 50c for a 4 ounce package if you wish. Gives sheen, looks good. Smells good too. Sale or royalty basis. Box MA-2, Drug & Cosmetic Industry.

OPPORTUNITIES WITH A MAJOR corrugated Lox manufacturer for a semi-retired or retired man or woman with contacts in the drug and cosmetic industry to sell corrugated boxes of every type. We will pay the highest commissions plus many extra benefits. Write today! Box A-1, Drug & Cosmetic Industry.

Classified Advertising

FOR SALE: Stainless steel tanks & kettles, new and used. Tablet machines. Portable electric agitators. Mixers, grinders, pebble mills, filter presses, dryers, filling machines, labelers, capping machines, etc. Send for listing. STEIN EQUIPMENT CO., 107 8th Street, Brooklyn 15, N. Y.

FOR SALE:—Colton #17 S.S. Automatic Tube Filler; Pfaudler Reactors, Glass Lined 5 & 100 gals; Stainless Steel Jack. Kettle w/Agitator 25 gals; Stokes 43B Granulator S.S.; Stokes RDS 3 and DD-2 Rotary Tablet Machines; 2 Lightnin' Agitators 7½ H.P. 100 rpm; Vacuum Shelf Dryers 6 & 20 shelf; Eppenbach QV-6-2 Colloid Mill and Premier 4" Colloid Mills, S.S.; Aluminum Copper & Stainless Steel Kettles; Rotex Sifters 20" x 48" and 40" x 84" S.S.; Day 15 & Ross 50 gal. Pony Mixers—Tanks, Labelers, Fillers, etc. Send for Bulletin A-41 for complete listings. THE MACHINERY & EQUIPMENT CORP., 293 Frelinghuysen Ave., Newark 12, New Jersey, TAlbot 4-2050.

MOISTURE LOSS DESICCATOR. For the determination of skin moisture loss. $12 each, complete. Quantity discounts. WILLIAM CAMPBELL, Sussex Avenue, Star Route, Morristown, New Jersey.

FOR SALE: Stainless Steel Pressure Leaf Filters, Niagara 45 sq. ft., Hercules 140 sq. ft. Sharples Model AS 16 Super Centrifugal; also stainless steel Tanks and Kettles. PERRY EQUIPMENT CORP., 1429 N. 6th St., Phila. 22, Pa.

UNION
Rebuilt Machinery
Established 1912
JUST SECURED
Most Modern Packaging and Processing Machinery
Installed Within Last 2 Years
AVAILABLE AT GREAT SAVINGS

4—Hayssen Model F Compaks and 3-Package Machinery Model C Transwraps with net weight scales, bulk and dribble feeds, Electric Eyes.
8—Scandia Model SFS6F high speed automatic Wrappers with Electric Eyes.
4—Ceco Model 40—9½-GG Automatic Adjustable Cartoning Units. Also Model A3901-12.
1—Pneumatic Scale Automatic Carton Feeder, Bottom Sealer and Top Sealer with interconnecting conveyors.
4—Stokes & Smith Model G1 and G2 Auger Powder Fillers.
6—Fitzpatrick Model D-6 Stainless Steel Comminuters.
4—J. H. Day size G, 1500 lb. Ribbon type Powder Mixers.
1—Enterprise Model EMV-3 Disintegrator with stainless steel fittings.
Capem 4-Head, Resina LC Auto. Cappers.
Pony, Ermold, World and Pneumatic Semi-Automatic and Fully Automatic Labelers.
Stokes DD2 and RBB Tablet Machines
Stokes and Smith Models G1, G2, G4, HG-84 and HG-88 Auger Powder Fillers.

COMPLETE DETAILS AND PRICES AVAILABLE ON REQUEST
UNION STANDARD EQUIPMENT CO.
318-322 Lafayette Street
New York 12, N. Y.
Phone: Canal 6-5334

Aromatic Chemicals

FOR PERFUMERY AND FLAVORS

Isopropyl Quinoline • Isobutyl Quinoline
Ethyl Anthranilate • Isobutyl Anthranilate
Diacetyl • Acetyl Propionyl • Acetoin

FAIRMOUNT CHEMICAL CO., INC.
600 FERRY STREET • NEWARK 5, N. J.

NEED EASTERN PLANT FACILITIES

In the Boston area, facilities are now available for private label items—both liquids and tablets.

Purchase • Manufacturing
Warehousing • Shipping

Can handle one operation or complete job. Special equipment for small lots or special work.

Write Box MA-1, DRUG & COSMETIC INDUSTRY 101 West 31st Street New York 1, N. Y.

MOULDS

LIPSTICK - COLOGNE - DEODORANT
STYPTIC PENCILS - MASCARA
SUPPOSITORIES

PROGRESSIVE MACHINE WORKS
137 West 22nd St., New York 11, N. Y.

ROUGE COMPACT POWDER
PUNCHES FOR TABLETS
also
FOOT & POWER PRESSES FURNISHED

DIES

The C. E. Ising Corporation
Manufacturing Chemists

AROMATIC PRODUCTS
"I.G." ("ISING" Germicide)
SOAPS for KENNELS and INDUSTRIES
MASKING ODORS for INDUSTRIES

Founded 1908
133-24 41st AVE., FLUSHING, NEW YORK

falba

Reg. U. S. and Foreign Countries
"THE HEART OF LANOLINE"

THE OXYCHOLESTERIN ABSORPTION BASE
Suggested Formulae on Request

Pfaltz & Bauer, Inc.
EMPIRE STATE BUILDING, NEW YORK

CATCH EYES!

Campbell

folding paper BOXES

CAMPBELL BOX & TAG CO., MAIN ST. S.W., SOUTH BEND 23, IND.

BOOKS:

As a convenience to our subscribers we offer the books of all publishers—technical and non-technical—at the regular published price—postage paid anywhere.

Consult our BOOK DEPARTMENT—direct your inquiries to

Book Department
Drug & Cosmetic Industry
101 West 31st St., New York 1, N. Y.
LOngacre 3-3177

Palladium Ammonium Chloride, Palladium Black
Diammine ... Palladium ... ide Diam
oxime, ... Monosu
Palladium Oxide, Palladium Sponge, Palladous
Aldehyde, Palmitoleic Acid, Palmitoyl Chlori
Pancreas Powder, Pancreatin, Panthenol, Pant
... Pap... Stain, d
... Pec
Pectinolytic Enzymes, Pellidol, ...n,
Pentaacetyl-d-gluconononitrile, Pe... -a-
Penta... benzoyli... bromo... enta
chlo... nzalda... ...ano... Pent
dec... Acid, Pentadecylic Ac... eryt
to... , Pentaerythritol Mono... irin,

OVER 20,000 CHEMICALS IN STOCK!

Write for Our New 138-Page Catalog!

DELTA PIONEERS IN CHEMISTRY

DELTA CHEMICAL WORKS, Inc.
23 West 60th St. New York 23, N. Y. Plaza 7-6317

CAMILLI, ALBERT & LALOUE S.A.

Grasse, France **Established 1830**

Natural Perfumer's Materials Stocked by Our American Affiliate

ABSOLUTES

BASIL	JASMIN	MOUSSE D'ARBRE
BORONIA	JASMIN POMMADES	OAKMOSS
BROOM (Genet)	JASMIN CHASSIS	ORRIS
CASSIE ANCIENNE	JASMIN BENZOL	RESEDA
CIVET	JONQUILLE	ROSE DE MAI
CLARY SAGE	LABDANUM	ROSEMARY
EVERLASTING (Immortelle)	LAVENDER	THYM
GERANIUM	LIATRIX	TOBACCO
HAY	MATE	VIOLET LEAVES
HOPS	MELILIOT	YLANG YLANG A

CONCRETES — ESSENTIAL OILS — RESINOIDES

CAMILLI, ALBERT & LALOUE, INC.

15 East 48th Street **New York 17, N. Y.**
Phone PLaza 3-6070

Jasmin

ADVERTISING INDEX

Abbe Engineering Co. 656
American Aromatics, Inc. 682
American Cholesterol Products, Inc. 672, 673, 678
American Sterilizer Co. 646
Anchor Hocking Glass Co. 624-625
Arenco Machine Co. 684
Atlas Powder Co. 570-571

Baker Chemical Co., J. T. 667
Barr & Co., G. 626

Camilli, Albert & Laloue, Inc. 696
Campbell Box & Tag Co. 693, 695
Carr-Lowrey Glass Co. 616
Cavalla, Inc., A. 693
Chrystal Co., Inc., Charles B. 682
Clintbrook Chemical Company, Inc. 686
Colonial Applicator Co. 622
Colton Co., Arthur 679
Continental Oil Co. 569
Crown Cork & Seal Co., Inc. 618

Deutsche Hydrierwerke GmbH 581
Delta Chemical Works 695
Distillation Products Industries 588
Dodge & Olcott, Inc. 572
Dow Corning Corp. 634
Dragoco, Inc. ....Bet. 576-577
Dunkel & Co., Inc., Paul A. 681
Du Pont De Nemours & Co., Inc., E. I. 614
Durlin Co. ....Facing 637

Eastman Chemical Products, Inc. 644
Emery Industries, Inc. 586
Encapsulations, Inc. 681
Ertel Engineering Corp. 676

Fairmount Chemical Co., Inc. 695
Felton Chemical Co., Inc. ....Facing 569
Firmenich, Inc. ....Facing 636
Fisher Chemical Co., Inc. 676
Florasynth Labs., Inc. 577
Fritzsche Bros., Inc. ....Bet. 660-661

Gane's Chemical Works 693
General Chemical Div., Allied Chemical Corp. ....Facing 629
Givaudan-Delawanna, Inc. ....Bet. 592-593, 675
Glycerine Producers Association ....Facing 585
Gottscho, Inc., Adolph 686
Griffin-Rutgers, Inc. 656
Gross & Co., A. 580

Harchem Div., Wallace & Tiernan, Inc. 664
Haring Equipment Corp. 680
Hazel-Atlas Glass—Div. of Continental Can Co. ....Facing 628
Helfrich Labs. 685
Hoffmann-La Roche Aromatics Div. 578
Hoffmann-La Roche, Inc. 561, 632
Hotel Jefferson 680
Huisking & Co., Charles L. 686

Ising Corp., C. E. 695

Kohnstamm & Co., H. ....Facing 568
Kolar Labs., Inc. 564
Kolmar Labs. 671

Lautier Fils, Inc. 568
Lueders & Co., George 645

Mallinckrodt Chemical Works ....Facing 593
Maryland Glass Corp. ....Facing 621
Mathieu, Inc., Charles 691
Merck & Co., Inc. 574-575, 584
Metalsmiths Div. of Orange Roller Bearing Co. 689

National Aniline Div., Allied Chemical & Dye Corp. ....Facing 577
New Jersey Zinc Co., The 683
New York Quinine & Chemical Works 630
Norda Essential Oil & Chemical Co. ....Cover 2

Orbis Products Corp. 579
Owens-Illinois Glass Co. 610-611, 619

Parsons Plymouth, Inc., M. W. 644
Penick & Co., S. B. 642
Pennsalt Chemicals Corp. 612
Pennsylvania Refining Co. ....Facing 592
Pfaltz & Bauer, Inc. 693
Pfizer & Co., Inc., Charles ....Cover 4
Penumatic Scale Corp., Ltd. 650
Polak's Frutal Works 576
Precision Valve Corp. 654
Progressive Machine Works 695

Reheis Co., Inc. 640
Richford Corp. 691
Ritter & Co., F. 689
Rohm & Haas Co. 659

Scovill Manufacturing Co. ....Facing 620
Shulton, Inc. 590
Sonneborn Sons, Inc., L. 565
Staley Manufacturing Co., A. E. 677
Standard Pharmacal Co. 684
Stepan Chemical Co. ....Facing 576
Sheffield Tube Corp., The 648
Sterwin Chemicals, Inc. 563
Stokes Corp., F. J. 652-653
Synfleur Scientific Labs., Inc. 662

Ultra Chemical Co. 664
Ungerer & Co. ....Cover 3
Upjohn Co., The 582
U. S. Bottlers Machinery Co. 656
U. S. Industrial Chemicals Co., Div of Nat'l Distillers & Chemical Corp. ....Bet. 668-669

van Ameringen-Haebler, Inc. 566-567
Van Dyk & Co., Inc. 638
Verley & Co., Albert 583
Verona Chemical Co. ....Facing 584
Vitamerican Oil Corp. 687

Welch, Holme & Clark Co. 687
Will & Baumer Candle Co., Inc. 573
Wallace & Tiernan, Inc. 664